DOCUMENT RESUME

ED 073 047 SP 005 985

TITLE	Research and Development in Teacher Education in Asia. Final Report of the Working Group Meeting on Research and Development in Teacher Education (Baguio City Philippines, January 11-20, 1972).
INSTITUTION	Philippines Univ., Quezon City. Asian Inst. for Teacher Educators.
SPONS AGENCY	United Nations Educational, Scientific, and Cultural Organization, Paris (France).
PUB DATE	Jan 72
NOTE	100p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Culture Lag; *Educational Development; Educational Innovation; *Educational Research; International Programs; *Non Western Civilization; *Teacher Education; Teacher Improvement; *Teacher Programs

ABSTRACT

This UNESCO-sponsored report contains innovations and program recommendations for a research-development approach to teacher education in Asia. The first section of the report deals with the problems of an educational lag in Asia, with emphasis on educational research and development in teacher education as a solution to these problems. The second section presents specific examples of research and development programs for teacher education. These examples include both long- and short-range programs with objectives, expected outcomes, and methodologies for each program. An annotated list of 10 other proposed projects are also given. The third section explains the implementation of research and development programs in teacher education. The criteria for selection of the programs are explained, and the organizational aspects are investigated. The functions of the programs are presented, and questions arising from these functions are proposed. The actual establishment of these research and development programs hinged on the consideration of these questions and the national acceptance of the answers. The necessity of international cooperation is stressed, and the aspects of funding and quality control are included. The annexes present the agenda and work schedule of the program, along with opening statements. Lists of participants, working committees, and office bearers are also included. (BRB)

FILMED FROM BEST AVAILABLE COPY

The ASIAN INSTITUTE FOR TEACHER EDUCATORS (Sponsored by Unesco) was established on the campus of the University of the Philippines in Quezon City following an agreement between Unesco and the Government of the Philippines. It is an autonomous institution and commenced operation in July 1962.

The programme of the Institute is designed to provide a forum and focal point for those responsible for teacher education in Asia in order to enable them to meet and exchange experiences, discuss programmes, develop common standards and draw up plans for the development and upgrading of teacher education in Asia. In pursuance of this purpose, the Institute:

- offers high-level short courses;
- undertakes and promotes studies and research;
- organizes periodical meetings of teacher educators;
- promotes exchange of information on teacher education among institutions in the region.

Working Group Meeting on Research and Development in Teacher Education, Baguio City, 11-20 January 1972.

Research and development in teacher education in Asia: final report of the Working Group Meeting convened by the Unesco Regional Office for Education in Asia and the Asian Institute for Teacher Educators. Quezon City, AITE, 1972.

96 p.

1. RESEARCH AND DEVELOPMENT – TEACHER TRAINING – ASIA. 2. TEACHER TRAINING – ASIA. I. Asian Institute for Teacher Educators, Quezon City. II. Unesco Regional Office for Education in Asia, Bangkok. III. Title.

370.78

ED 073047

RESEARCH AND DEVELOPMENT IN TEACHER EDUCATION IN ASIA

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

FINAL REPORT
of the
WORKING GROUP MEETING ON
RESEARCH AND DEVELOPMENT IN TEACHER EDUCATION

Convened by the Unesco Regional Office for Education in Asia
and the Asian Institute for Teacher Educators
Baguio City, 11-20 January 1972

SP 005 985

ASIAN INSTITUTE FOR TEACHER EDUCATORS
(Sponsored by Unesco)
University of the Philippines
Quezon City

1972

Any opinions which are expressed or implied in this publication are those of the respective authors and do not necessarily reflect the views of Unesco or of the Institute. No expression of opinion is intended here concerning the legal status or the delimitation of the frontiers of any country or territory.

Published by the
ASIAN INSTITUTE FOR TEACHER EDUCATORS
(Sponsored by Unesco)
University of the Philippines
Quezon City
1972

TABLE OF CONTENTS

	Page
SUMMARY OF THE REPORT OF A WORKING GROUP ON RESEARCH AND DEVELOPMENT IN TEACHER EDUCATION IN ASIA	i
INTRODUCTION	1
PART ONE: RESEARCH AND DEVELOPMENT IN EDUCATION	
I. Problems of Educational Lag in Asia	5
II. Promise of Educational Research and Development in the Solution of the Problems – Concepts and Practices	6
III. Teacher Education as the Strategic Entry Point	9
PART TWO: EXAMPLES OF TYPES OF RESEARCH AND DEVELOPMENT PROGRAMMES FOR TEACHER EDUCATION IN ASIA	
Introduction	13
Suggested Long-Range Programmes for Research and Development in Teacher Education	17
Suggested Short-Range Programmes for Research and Development in Teacher Education	51
Annotated List of Some of the Projects Proposed for Research and Development in Teacher Education	65
PART THREE: IMPLEMENTATION	
I. Criteria for Selecting Programmes	69
II. Organizational Questions	69
III. The Necessity for International Cooperation	71
IV. Funding and Quality Control	72
ANNEXES	
1. Agenda and Work Schedule	77
2. Opening Statements:	
A. Welcome Message of the Honourable Luis L. Lardizabal, Mayor, Baguio City	81
B. Opening Remarks by Dr. Salvador P. Lopez, President, University of the Philippines and Chairman, Steering Committee of AITE	82

C. Address by the Honourable Juan L. Manuel, Acting Secretary of Education 84

D. Opening Statement at the Organizational Session by Mr. Raja Roy Singh, Director, Unesco Regional Office for Education in Asia, Bangkok 87

3. List of Participants 91

4. List of Working Committees 95

5. List of Office Bearers 96

LIST OF FIGURES

FIGURE		Page
1	Duration of Time Typically Required for Completing the Exercise	32
2	Building Programmes with Modular Units	33
3	The Place of Skills in the Teacher Education Curriculum	42
4	Areas of Teaching Skills in Relation to Areas of Educational Objectives	43
5	A Model for the Preparation and Production of Materials for Teacher Education	44
6	Teacher-Student Relationships in Context (For Developing a Model for Analyzing a Classroom)	46

SUMMARY OF THE REPORT OF A WORKING GROUP ON RESEARCH AND DEVELOPMENT IN TEACHER EDUCATION IN ASIA

SUMMARY OF THE REPORT OF A WORKING GROUP ON RESEARCH AND DEVELOPMENT IN TEACHER EDUCATION IN ASIA

Baguio City, 11-20 January 1972

Introduction

The Third Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia (Singapore, 31 May–7 June 1971) recommended a reform and reorganization of the educational systems with a view to adapting them to each country's evolving social, economic and cultural needs, and the encouragement of innovations in the content, methods and structures of education in order to enhance the capability and performance of the educational systems to meet the requirements of quantitative growth and qualitative improvement of education. The education of teachers being the strategic entry point for reform and qualitative growth of education, and research being the basic condition for renovation, a research-development approach to teacher education became a priority need. Hence, a Working Group Meeting of international experts was organized by the Unesco Regional Office for Education in Asia, Bangkok, and the Asian Institute for Teacher Educators, Quezon City, in January 1972 at Baguio City, Philippines, to study the implications of a research-development oriented approach to teacher education in Asia and to formulate programmes which might be carried out within the framework of the 'Mechanism for Regional Cooperation' recommended by the Singapore Conference.

The Group's conclusions and programme recommendations are embodied in its *Report*. which is briefly summarized herein.

1. The Need for R&D in Teacher Education

a. THE EDUCATIONAL LAG

i. Public expenditure on education has doubled in the last ten years; yet, educational opportunities have by no means become universal. Visible disparities still exist in the distribution of educational facilities among different sections of the population – rural and urban, boys and girls – and in the educational and training needs of the population outside the 'formal' education systems for both young people and adults.

ii. Concerning the quality of education, this lag is in two areas. First, there is a widening gap between the educational systems and the emerging changes in societal goals. Secondly, there is an inadequate appreciation of the widening frontiers of knowledge in the modern world.

b. THE NEED FOR INNOVATIVE APPROACHES

i. If education is to play its role as a driving force in social and economic transformation, its aims, purposes and methods will need to be examined afresh and new concepts and policies formulated and applied to direct expansion of education to developmental goals.

ii. As the content of education is no longer a fixed body of knowledge, central to the process of imparting and acquiring it are the skills of observing, communicating, testing, experimentation, discovery and learning to learn.

iii. Hence, innovative approaches should be accorded high priority and they should encompass the reorganization of overall structures and patterns as well as reorientation of curriculum, instruction and methods.

c. TEACHER EDUCATION AS SEEN IN THE CONTEXT OF THE TOTAL EDUCATIONAL SYSTEM AND SOCIAL CHANGE

i. Shortage of teachers is one of the main obstacles to the expansion and qualitative improvement of education, but matching supply to demand is not the only problem. Teachers are to be trained in the kinds of skills, attitudes and understandings that are called into play when education is conceived of as an energizing force in social transformation.

ii. Teacher training institutions today, preoccupied as they are with meeting the quantitative needs, tend to perpetuate *status quo*. R&D is one of the potent sources from which teacher education programmes may derive the impulse to make them centres of innovative thought and practice in education.

2. **Promise of R&D in the Solution of the Problems**

a. Educational R&D follows a'systems approach'–attempts to be comprehensive both in considering all of the elements in the total system and in following through from invention and design of a new product until it is successfully installed in an educational setting. Its 'critical mass' of talent which will be an interdisciplinary team would make the solutions of complex problems possible. It would build working models–innovative approaches–using rigorous research methods which will go through tests and retests till the product reaches an acceptable level of performance. Then the product will be installed and made to work successfully in one or more settings, and the idea will be widely disseminated. Feedback will be used for further refinement of the product.

b. It is a well-defined mission which is made explicit in its objectives and consequent programmes and projects. Hence, it ensures a high degree of visibility of achievement and accountability for the funds used.

3. **Criteria for Selecting Programmes for Implementation through R&D**

To establish priorities in selecting problems to be tackled, the following hints are helpful: a feasibility study, study of available resources, relative importance of the problem, its solvability, its cost-reducing effect, its amenability to evaluation, its multiplier effect, and its position in a conceptual model. When more than one problem is selected, they should preferably be limited to a few interrelated ones.

4. **Organizational Aspects**

The R&D Centre may come to be a centrally essential element in the whole educational system. The R&D Centre in Teacher Education should act as the heart of the teacher education activities, and constantly feed back into the system developed correc-

tive devices for combating irrelevant and uneconomical operations and for increasing the functional efficiency of each process and giving new directions consistent with the needs of a rapidly changing society. Nationally acceptable answers should be found to questions of organizing the Centre with desirable autonomy in its operation, employment and financial matters. However, it is suggested that the educational enterprise of a country should allocate, to start with, about 1% of its educational budget for R&D, and financial planning for R&D providing for long-range support should be on the basis of an initial period of five years to enable the R&D Centre to be viable. As any country working alone in R&D will run the risk of lagging too far behind its regional neighbours, and collective working endeavours may lead to greater progress than individual efforts, international participation and support should be aimed at. Multiple funding from international sources is essential, and so stressed.

5. Research and Development Programmes for Teacher Education in Asia

a. Three long-range programmes recognized as having high priority in Asia were prepared by the Working Group as suggested programme activities for R&D in teacher education. These three are interlinked in such a way that there would be many advantages in working the three together as a single project provided facilities and resources are available. As far as possible, these projects should be undertaken with international collaboration.

b. A few short-range programmes were also worked out.

c. An annotated list was made of some more programmes and projects.

INTRODUCTION

INTRODUCTION

Organization and Scope of the Meeting

1. The Third Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia (Singapore, 31 May–7 June 1971) recommended three policy objectives to the Member States in Asia for the development of education in the decade of the Seventies;* namely,

   - to promote national policies towards making education available to the whole community as the means for the full development of human resources;
   - to initiate and sustain the reform and reorientation of these educational systems with a view to adapting them to each country's evolving economic, social and cultural needs; and
   - to encourage innovations as regards the content, methods, and structures so as to enhance the capability and performance of the education systems to meet the requirements of quantitative growth and qualitative improvement of education.

2. The education of teachers is of strategic importance in any movement for reform and qualitative growth of education, and research is the basic condition for the renovation of teacher education programmes. The research, however, has to be linked to development to the end that the results of such research-development effort are put into widespread use in educational practices. The implications of a research-development oriented approach to teacher education in Asia need to be studied. The Unesco Regional Office for Education in Asia therefore decided to convene, in collaboration with the Asian Institute for Teacher Educators, a Working Group of Experts to study the application of Research and Development to teacher education and to suggest programmes that might be carried out within the framework of the "Mechanism for Regional Co-operation" recommended by the Singapore Conference.**

3. The Working Group Meeting was held in Baguio City (Philippines) on 11-20 January 1972. It was attended by 12 experts from the region and outside, in addition to the staff members of the Unesco Regional Office and the faculty of the Institute. (List of Participants, *Annex 3*). The secretarial and conference services were provided by the Institute. The Opening Ceremony was held on 11

---

*Third Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia, Singapore, 31 May–7 June 1971, *Final Report* (Paris: Unesco, 1971), p. 49.

**_Ibid._, Resolution No. 14, p. 59.

January 1972 and was participated in by the Honourable Juan L. Manuel, Acting Secretary of Education, Republic of the Philippines, and Dr. Salvador P. Lopez, President of the University of the Philippines. A message from the Mayor of Baguio City was gratefully received. (Opening Statements, *Annex 2-A, Annex 2-B and Annex 2-C*)

4. In the first business session, the Working Group delineated the scope of its work in the light of the statement of Mr. Raja Roy Singh, Director of the Unesco Regional Office (*Annex 2-D*), and established its work schedule and procedures (*Annex 1*). It unanimously elected Dr. Narciso Albarracin, Undersecretary of Education, Republic of the Philippines, as the Chairman of the Meeting. Dr. Mir A.F. Siddiq (Afghanistan), Dr. I. Ayman (Iran), Prof. P.K. Roy (India), and Dr. Ruth Wong (Singapore) acted as Sessional Chairmen. Dr. N.P. Pillai (AITE) was designated Secretary.

The report that follows was adopted by the Meeting in the concluding session and reflects the Group's conclusions and programme recommendations. It is presented in three sections corresponding broadly to the Group's terms of reference.

PART ONE

RESEARCH AND DEVELOPMENT IN EDUCATION

I. Problems of Educational Lag in Asia

II. Promise of Educational Research and Development in the Solution of the Problems – Concepts and Practices

III. Teacher Education as the Strategic Entry Point

PART ONE
RESEARCH AND DEVELOPMENT IN EDUCATION

I. Problems of Educational Lag in Asia

Education in Asia has, in the last decade, expanded on a scale without precedent in the history of the continent. In a region as vast and varied as Asia is, there must necessarily be considerable differences in the growth rates in individual countries. The regional aggregates however do serve to remind us of the magnitude of the educational enterprises, the rapid rate in which it is growing and also of the strains and stresses which show themselves. For example, overall enrolments increased by 61% in ten years, rising from about 90.3 million in 1960 to around 168 million in 1970. The education systems in the Asian region now cover 34% of the total population in the age group 5-24. It is estimated that by 1980 the overall enrolments would have risen to about 298 million. Public expenditure on education has doubled in the last ten years, and most countries are spending 3%–5% of the national income on education.*

Despite this remarkable effort, educational opportunities have by no means become universal. In many countries of the region, there are still visible disparities in the distribution of educational facilities among different sections of the population – between urban and rural population and between boys and girls. Another lag is concerned with the educational and training needs of the population outside the "formal" education systems – both young people and adults.

There is today in Asia a profound concern about the "quality" of education that the rapidly expanding education systems provide. The deliberations of the Asian Ministers of Education in the Singapore Conference gave incisive expression to this concern. The concept of "quality" in this context refers specially to two processes. First, it is the relationship between an education system and the society it serves. The Asian educators see a widening gap between their education systems and the emerging changes in societal goals. The Singapore Conference expressed this concern thus:

> ". . . fundamental changes are taking place in the economic, social and cultural setting in which education has to function . . . (Educational) expansion should not, however, be based on a passive response to these changes or on the belief that all education, of whatever kind, is necessarily an instrument of progress. If education is to play its role as a driving force in social and economic transformation, its aims, purposes and methods will need to be examined afresh and new concepts and policies formulated and applied to direct this expansion to developmental goals."

---

*Statistics quoted in this document are derived from the documents presented to the Third Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia, Singapore, 31 May–7 June 1971, and therefore refer to only those countries which were Member States of Unesco at the time of the Conference.

The second aspect of the quality of education is seen in terms of how far the pupils have been taken and what forms of knowledge, attitudes, skills and work habits have been developed. The lag in qualitative education here springs from an inadequate appreciation of the moving frontiers of knowledge in the modern world. The content of education is no longer a fixed body of knowledge. Central to the process of imparting and acquiring it are the skills of observing, analyzing, communicating, testing, experimentation, discovery and learning to learn.

These concerns about the quality of education led the Singapore Conference to conclude that innovative approaches to the problems of educational development in Asia should be accorded high priority in planning for the decade ahead. Such innovative approaches should encompass "the reorganization of overall structures and patterns as well as reorientation of curriculum, instruction and methods."

The problems of teacher education in the Asian region must therefore be seen in the context of the education system as a whole, and indeed, in the even larger context of education in relation to a society in the process of social change. To the extent that the teacher has a crucial role in the educational process, his preparation and training must be a matter of permanent concern.

One of the main obstacles to the expansion and qualitative improvement of education in the region lies in a serious shortage of qualified and adequately prepared teachers. The roots of the problem go deeper than the question of matching supply to the demand. We must train teachers in the kind of skills, attitudes and understandings that are called into play when education is conceived of as an energizing force in social transformation. Are the teacher education programmes as they are in operation in the countries of the region designed to these ends? Do their methods, practices and instructional practices train teachers to deal, with a measure of confidence, with the problems and realities of the classroom and the community? The Asian Ministers of Education in the Singapore Conference expressed their deep concern about teacher education programmes. They felt that "teacher training institutions, preoccupied as they are with meeting the quantitative needs, tend to perpetuate *status quo* and have yet to become centres for innovative thought and practice in education."

It is the conviction of the Working Group that one of the potent sources from which teacher education programmes may derive the impulse to make them "centres for innovative thought and practice in education" is research and development.

II. Promise of Educational Research and Development in the Solution of the Problems

A. ORIGINS AND PROMISE OF EDUCATIONAL R&D

A scientific research approach to educational questions is a phenomenon of this century. Conceding that this is a short time in historical perspective, still the results of educational research so far have been disappointing in their effects upon educational practice. Reasons as given below are illustrative.

1. The educational research effort has been too small, trained researchers too few, and resources too limited.

2. The effort has been too fragmented: research projects have been directed to small isolated parts of the total system and their methodologies and samples have been so diverse that they could not be combined to produce any total effect.

3. The research has often attempted to copy designs from the natural sciences which were inappropriate for the problems under consideration.

4. Sufficient attention was not given to pressing problems in the school systems.

Immediately after World War II, particularly in the United States, attempts have been made to remedy these and other defects. Larger sums of money were made available, especially from central governments and philanthropic foundations. Large-scale projects were undertaken, such as the development of new curricula on a national scale which brought together interdisciplinary teams of teachers, supervisors, and pedagogical and subject matter specialists . The results were promising but still did not fulfil expectations of producing changes in the schools, partly because these efforts failed to take sufficiently into account all of the critical factors in the system, as for example, the necessity to re-train teachers if new curricula were to be successful. Consequently, a new effort, designated as educational R&D, has recently been launched. In the United States more prominently, but also in other Western countries, e.g., Canada and Germany, networks of educational R&D Centres and laboratories are being formed. The origin of this effort stems from the success during the last century of applying an R&D model in agriculture to produce the "green revolution," and in business and industry where the output of consumer goods as well as basic productive capability increased so dramatically. It has been reasoned that some adaptation and application of this model might produce similar results in improving the quality of education systems that are creaking, if not breaking down, under the demands made upon them.

B. NATURE OF EDUCATIONAL R&D

The essential ingredients, the concepts and practices that characterize R&D as it has thus far been adapted to education, are:

1. *Systems approach.* One overriding feature of an R&D effort in education is its attempt to be comprehensive both in considering all of the elements in the total system and in following from invention and design of a new product until it is successfully installed in an educational setting.

2. *Critical mass.* Too often in the past, the number and variety of trained personnel available to work on a project have been too small to achieve the results aimed at. Almost all important problems are complex in their nature, A successful R&D institution is able to assemble a "critical mass" of talent that makes possible the solution of *complex* problems.

3. *Interdisciplinary team.* One ingredient that has been lacking in many educational research projects in the past has been a sufficiently broad base of knowledge and skill to effect a solution to the problem. Most of the important educational questions will yield to solution only if the full power of many relevant disciplines are brought to bear, e.g., education, psychology, sociology, anthropology, economics, political science, law, medicine. R&D institutions are developing the power to attract such teams and to provide them a congenial working environment.

4. *Design and field test.* The heart of an effective R&D effort is the design and field test stages of the work. Drawing upon basic and applied work done elsewhere or in its own organization, the R&D staff concentrate upon the creative task of building a working model that will overcome some difficulty or contribute a new way to accomplish some educational task, i.e., developing an innovative approach. It then tries that model out in a limited field setting, using rigorous methods for determining how well it works, first under

limited and controlled settings, and later under more normal conditions. It goes through as many tests and revisions as are necessary for the product to reach an acceptable level of performance. This recycling approach, often referred to as a series of "successive approximations," is a critical element in the whole R&D process.

5. *Dissemination and installation.* The process is not considered to be complete until the educational product has been installed and made to work successfully in one or more practical educational settings. In addition, the R&D institution assumes responsibility for seeing that the product is made widely known to the relevant educational community, through either its own efforts or those of some other agency or network.

6. *Continuous feedback and revision.* A desirable feature of educational R&D, not yet fully implemented, is the provision for getting data from those who are using the new educational product or practice in the schools, so that the original developers or someone else so designated can continue to refine and improve the product, or withdraw it from use if it happens to work badly or produces unanticipated undesirable effects.

7. *Focus on a mission.* Educational R&D, when it is properly carried out, does not dissipate its energies by moving in too many directions. Rather, it concentrates upon accomplishing a well-defined mission, which is made explicit in the objectives and consequent programmes and projects.

8. *Visibility and accountability.* The necessity for clearly stating in advance what is to be done, and then of following through the whole process until the mission has been successfully accomplished, imparts a high degree of *visibility* to the R&D institution. This in turn enhances the possibility for holding the institution *accountable* for the funds it receives in terms of the results achieved. This has long been a neglected element which those who provide funds for education would like to see remedied, especially at a time when many competing demands vie for a share of the total resources available.

C. EXPERIENCE WITH R&D

It must be remembered that as an explicit effort R&D is less than a decade old, although its antecedents in a variety of partial forms have been around for a longer period. Hence, a firm answer cannot yet be given to the question: how successful has educational R&D been up until now? A conservative reply would be: promising, but not proven.

The millenium has not arrived as soon as expected for several reasons. Original expectations soared too high, partly as a result of the promises of some proponents who were trying to sell the idea in the beginning, and partly because realizing the urgency of the need there has been a frantic grasping of any possible remedy for the worsening educational conditions, especially in developing areas of the world. This condition has been exacerbated by the pressure for instant results and a corresponding tendency to pull up the educational R&D 'plant' at too frequent intervals to find out if it was growing well and producing as much as it was hoped. This has not been good for helping the new plant to grow into maturity and full productivity. Progress has been slower than hoped because the accumulated scientific base upon which to build has been found to be much more meagre than it was in agriculture and industry at the beginning of their R&D efforts.

Another problem has been that the original promise of funding has not been realized. Missions and programmes that were based upon an anticipated rising level of funding have too often faced level decreasing, or erratic funding by sponsoring agencies.

In spite of these difficulties which are illustrative only, some notable accomplishments must be credited to the account of educational R&D. An increasing array of new, imaginative products is beginning to appear on the educational market. The number of instructional packages available for classroom use that go beyond textbooks and tests is impressive. Their number, variety, and quality are greater than when the production of instructional materials was left to the private sector or to individual colleges and universities.

A noticeable shift has taken place in the educational research community as funds, attention, and an excitement have arisen around educational R&D efforts. The attention of educational research workers has shifted toward the need for reforming practices in the schools and toward fundamental and felt educational needs of teachers, administrators, students, and laymen. The need has arisen and efforts to meet it are taking shape to alter the traditional training of educational researchers in the direction of producing experts who can and want to attend to the "D" part of R&D. Not the least of the accomplishments is the beginning, albeit in rough form, of a dissemination network that is both extensive and reasonably rapid in its informational functions.

As a final item of accomplishments in this brief and only illustrative list, attention is drawn to an earlier mentioned feature, namely, an increase in the visibility and accountability of those who expend funds for the purpose of bringing about constructive educational innovation and reform.

This incomplete assessment of the promise of educational R&D thus far in its short lifetime is sufficient basis for this Working Group to recommend the mounting of an educational R&D effort, initially in teacher education, but hopefully soon in other fields, in the Asian region. Some promising possibilities have been sketched at the Meeting and may be found in Part Two of this report.

III. Teacher Education as the Strategic Entry Point

The school is what the teacher makes of it. He is supposed to influence the pupil directly by precept and example. He has to influence the parents if only to guard against his influence on the pupils being wiped out by the traditional ways of home life. This, he may do indirectly through the pupils and directly through participation in community education. He has to take into account the tremendous power of mass media in shaping pupil behaviour – the film, the stage, the radio and television. Not less important is the influence of the peer group on pupil's conduct and behaviour. His education and training has therefore to be planned with reference to all factors which may have a bearing on his work in the school and outside.

The teacher's role as a community leader and change agent in the Asian situation makes it necessary that he is virtually trained as a social engineer. He has to be a friend, guide and counsellor to the community, especially in the rural areas, and co-worker in community education and community development activities. He has therefore to acquire skills which will make him adept in public relations, and the management of men and material resources.

The teacher's stock in trade is knowledge of school subjects which has to be wide and up-to-date. Knowledge explosion has made it difficult for anyone to master any field,

however small it may be, through a single institutional course of short duration. Knowledge which is not periodically replenished becomes stale. Hence, the further education of teachers in service has to be built-in in any programme of professional training of teachers if the teacher has to play the role of an innovator or change agent.

How these tasks can be performed quickly and efficiently cannot be decided on an *a priori* basis. Concerted efforts at research and development in teacher education have to be made if the professional preparation of the teacher as an innovator and change agent is to be accomplished.

The preparation of the teacher as an innovator should precede the introduction of any innovative approaches to teaching and learning in the school, for it is he who is to provide and manage the new teaching-learning situations. Hence, research and development in teacher training acquires priority in any scheme of total educational reconstruction. The inadequately prepared teacher is the rock on which many an educational reform had wrecked. Curriculum revision and the introduction of new concepts in teaching and learning would be meaningless unless teachers are trained to appreciate the new concepts and put them into practice. What should be the desirable personal, academic and professional qualifications of a teacher at the first or second level of education, what should be his attitudes, what competencies should he have acquired, what should be the code of ethics he should possess, and how should he proceed in the tasks of organizing, conducting and evaluating the education of the young or in working with his own peers in the school and in cooperating with the public at large, are matters to be given priority attention in any scheme of reforming the school system.

PART TWO

EXAMPLES OF TYPES OF RESEARCH AND DEVELOPMENT PROGRAMMES FOR TEACHER EDUCATION IN ASIA

PART TWO

EXAMPLES OF TYPES OF RESEARCH AND DEVELOPMENT PROGRAMMES FOR TEACHER EDUCATION IN ASIA

PART TWO

EXAMPLES OF TYPES OF RESEARCH AND DEVELOPMENT PROGRAMMES FOR TEACHER EDUCATION IN ASIA

Introduction

The Working Group agreed that one or more of the following major problems deserve to be taken up for research and development. All these problems are recognized to have high priority in Asia generally. It is suggested that they may be taken up as subjects of R&D by the Member States, each in its own context.

1. An Experimental Approach to the Training of Teacher Educators (Pre-Service and In-Service) for the Preparation of a Model Curriculum for Education of Teacher Educators
2. Developing and Testing a Model Teacher Education Curriculum (Pre-Service and In-Service)
3. 1) Identification of Technical Skills of Teaching and Development of Training Materials
   2) Development of a Model for Analyzing a Classroom

It was noted that the three problems are interlinked in such a way that there would be many advantages in working the three together as a single project, provided facilities and resources are available. Curriculum development for the education of teachers (Problem 2) would necessarily involve identification of competencies and skills of teaching and the type of new materials to be used in teaching, and it would benefit by any analysis of classroom situations (Problem 3). The training of teacher educators (Problem 1) would make use of the researches in problems 2 and 3 as a major part of the many experimental approaches through which it may be carried out. The work in one area will help supplement the work in the other and help validate some of the procedures and findings common to and overlapping these activities. The research workers who would work cooperatively would gain new insights from each other's experiences; and the pooled data and findings of all three problems would help refine the work in each problem. Such an approach would also be economical as it would reduce both time and cost. The three long-range research programmes outlined in the Report are therefore viewed as complementary parts of a single project.

The suggestions for the long-term and short-term projects outlined in Part Two have been made by an international team. It is the Working Group's conviction that these projects should, as far as possible, be undertaken with international collaboration. A later section of this Report discusses the need for and the importance of international cooperation in R&D.

Suggested Long-Range Programmes for Research and Development in Teacher Education

SUGGESTED LONG-RANGE PROGRAMMES FOR RESEARCH AND DEVELOPMENT IN TEACHER EDUCATION

1. Experimental Approach to the Training of Teacher Educators

A. STATEMENT OF THE PROBLEM

To train teacher educators who are knowledgeable and skilful at generating, empirically validating, and implementing educational procedures that give the nation good value for its investment.

B. OBJECTIVES AND EXPECTED OUTCOMES

1. Experimentally train teacher educators in more diversified and differentiated roles such as:
   a. Communicator
   b. Initiator and developer of learning materials, preferably in modular form, in the national language
   c. Individualized and personalized instructor
   d. Team member (the team includes professorial colleagues, the classroom teachers, administrators, selected parents, etc.)
   e. Continuous experimenter with his own instructional practices
   f. Organizer and manager of instructional systems (e.g., setting up and maintaining appropriate feedback systems among teacher educators, classroom teachers, student teachers*, pupils, etc.)
   g. An agent who involves others of the community in the exchange of ideas about the teacher education programme for facilitating the development of objective ways and determining how well community values are being served
   h. One who maintains continuous self-development in his professional competencies (a life-long learner)
   i. One who provides a living model to the student teachers of the instructional principles described above in *a-h*, and who explicitly helps them master and use these practices.
2. Through an R&D system, progressively refine these training procedures and their associated materials and techniques.
3. Through an R&D system, develop effective ways to adopt and evaluate these procedures on a wider scale, within the nation, and through the Asian region.

An important qualifying principle is that the teacher education systems should not promise or demand impossible accomplishments, either of individuals or of the educational programme, so that neither the educators nor the public become disillusioned by unfulfilled promises.

---

*The term "student teacher" is used here in the broad sense of denoting all those who are undergoing initial training, whether it is pre-service or in-service.

C. METHODOLOGY

1. The Organizational Setting

The recommended arrangement in which both teacher education and the (self) education of teacher educators might best occur is as follows:

a. Set up a "Teaching Centre" in a school where the student teachers are to get their practical experiences.

b. Have these student teachers, and their teacher educators, work in this school from the first week of the professional course (if not, indeed, from the beginning year – freshman year in a four-year college). Some kind of arrangement such as "block scheduling" of professional education credits, in periods from six weeks to one year, may be necessary in order not to interfere with the student teachers' pursuit of their general education.

c. Have the teacher educators spend most of their instructional time in this school.

d. Let the teacher educators team up with each other, with the regular teachers with specialist supervisors in the school system, and with the administrators, to conduct carefully planned but progressively revised action-experiments for training the student teachers.

e. Encourage selected parents to provide input about community concerns, to learn to assist in the work of the school (perhaps at home, as well as in the school), and to communicate to the rest of the community what the total team is doing for the children.

f. Possibly, in the long run, the school might act as the central hub of a network of community resources, identifying the needs of individual children (and staff members) and selectively invoking appropriate services from other resource agencies in the network.

Whatever the details, the organizational setting should provide the earliest possible interweaving of teaching theory and practice. Instructional improvements should be readily transmittable to student teachers whether they are in pre-service or in-service training, and teacher educators should work with teachers and children in the live school setting, acting as partners in learning as they develop increasingly effective methods for educating teachers and themselves.

2. Specific Roles

a. Communicator

i. Functions associated with role

(1) transmits, quotes, and presents relevant information from research and other literature on how to conceptualize teaching behaviour in specific situations and on the repertoire of skills available for improvement of interaction between teacher and taught.

(2) explains models available for the organization of instruction and elucidates the objectives and rationale for such models relevant to specific outcomes, e.g., team teaching, individualized instruction, group discussion, workshop

experimentation, counselling, tutorial supervision, and so on.

(3) communicates philosophy underlying the life-styles and values to which teachers need to subscribe as members of a given society.

ii. Methodology to test whether functions are indeed performed

(1) *Action on i (1)* – Systematic information and data gathering with respect to specific areas of interest and instruction, e.g., classification of information, retrieval of information, continuous updating of information; compiling relevant reading lists for student teachers, ensuring that student teachers make use of information/reading lists, ensuring that student teachers learn how to gather and retrieve their own information.

(2) *Evaluation for i (1)* – Evaluate through checklists on source materials, maintenance of regular schedules for reading, questionnaires on source materials directed to student teachers, quizzes and questions based on information conveyed through reading lists, and tests which evaluate the effectiveness of the use of information acquired.

(3) *Action on i (2)* – Use mock-ups and actual classroom situations to supply practice in support of theoretical models.

(4) *Evaluation for i (2)* – Use observation schedules; get student teachers to rate performance of those discharging given functions; use feedback devices such as video-tape or recorded conversation for group analysis.

(5) *Action on i (3)* – Teacher educator and student teachers get together to select some values they think are of importance to their specific society.

(6) *Evaluation for i (3)* – They can together clarify these values by strength of sentiment (or some other criteria) of specific sectors of their society, e.g., youth, children, adults (further subdivided into blue-collar workers, professionals, etc.); make a comparative study of how important these values are to various sectors of society – realistic or unrealistic; then consider those which are irreducibly important to all concerned. They can also examine ways in which values are incorporated in curricula, content and learning practices.

b. DEVELOPER OF LEARNING MATERIALS

A model could be developed, for example, which would take a teacher educator through all the steps by which he himself would develop an instructional module for teachers on the subject of, let us say, asking higher-order questions of children. The teacher educators' module would call for:

i. A statement of objectives in terms of teacher behaviour.

ii. A list of relevant materials that could be adapted, such as the Stanford-Far West Laboratory booklet, *Questioning*, and other reference materials or models.

iii. Instructions for translating related materials into the national language, and for checking the accuracy of the translation.

iv. A detailed description of alternative modes of presentation to teachers.

v. Booklets, films or other materials the teachers are to use.

vi. Procedures for the teachers to follow in trying out the method (micro-teaching, for example; or the "15-minute hour" at the Texas R&D Centre).

vii. Procedures for recording what the teacher does (video-tape, observer-record, etc.).

viii. Instructions and illustrative models the teacher educator can use in giving helpful feedback to the teacher.

ix. Procedures for recording the interaction between teacher educator and teacher.

x . Procedures for obtaining accurate feedback from the teacher on his perceptions and reactions to this interaction.

xi. Procedures for the teacher to follow to improve his use of the method.

xii. Provision for the teacher to "reteach," using the method, and to record the process.

xiii. Instructions for the teacher educator to review the "reteach" evidence with the teacher.

xiv. If possible, recorded samples of the teacher's instructional behaviour at later times, to assess the lasting effects of the instruction.

xv. Measures of pupil reactions in the model teaching episode (vi), in the "reteach" episode (xii), and on later occasions (xiv), to assess the ultimate effectiveness of the whole experiment.

xvi. Instructions to the teacher educator about quantifying the comparisons before (vi) and after (xii-xiii) giving guidance to the teacher, and about interpreting the results accurately so as to assess his actual influence on the teacher's behaviour.

xvii. Illustrated suggestions for the teacher educator about ways in which he could modify his instruction, or about ways he might go about inventing his own modifications.

c. INDIVIDUALIZED AND PERSONALIZED INSTRUCTOR AND COUNSELLOR

i. Specific functions related to role

(1) Helps the student teacher to plan and find direction for the satisfactory performance of his individual tasks, e.g., those which arise out of a learning situation (assignment); those which arise out of individual interest (independent study); those which arise out of a practice situation (classroom management, etc.).

(2) Helps the student teacher to assess his individual competence and to achieve realizable goals, e.g., if a student teacher is weak in personal relations how should he be advised not to choose guidance/counselling as a course option or be helped to improve.

(3) Counsels the student teacher on personal problems.

ii. Methodology

(1) *Action on i (1,2,3)*

- Keep a good record of particular student teachers under his charge. This should include the student teacher's personal particulars, his academic records, observations on his behaviour in a group/individual situation and his personality characteristics, observations on his progress during the course, and so on.
- Acquire a good bank of information on student teacher's counselling techniques so as to be able to try out those pertinent to specific local situations.
- Set aside definite periods on the weekly schedule for meetings with student teachers and ensure that the objectives for the various categories of meetings are clearly kept in view, e.g., remedial, advisory, laboratory, supervisory, etc.

(2) *Evaluation of i (1,2,3)* – Evaluation of the effectiveness of each type of counselling can be made through the use of tests, inventories, student teachers' responses at sessions, and so on. Also help student teachers to maintain their own feedback report forms, e.g., growth charts.

d. TEAM MEMBER

Experimental work in developing a team member's role would involve:

i. Provision of a graded set of group experiences ranging from a simple peer recreation group through to the more complex but still real-life combinations of persons that a teacher educator comes in contact with. In assembling a group to provide a given variety of experience, the experimenter would consider such variables as the size of the group; the seriousness or difficulty of the activity it will engage in; the age, authority and power competence of various members of the group; and the constraints or pressures under which the group would function.

ii. Means of recording and feeding back team behaviour and team accomplishments to the teacher educators in training.

iii. Means of helping the teacher educator to learn from his participation and from the records. These might include discussions by team members after a group exercise, coaching by the observer of a group exercise, or self-improvement following the trainee's study of his own records. Role-playing exercises, team games, and even drama and dance will also provide learning experiences in which trainees can develop teamwork skills.

Note: When used for the training of *teachers*, this experimental procedure is modified to incorporate the groups of people with which teachers come in contact, if indeed these are different from the contacts of teacher educators.

e. CONTINUOUS EXPERIMENTER

Developing a teacher educator's capacity to experiment with and evaluate his own teaching practices might involve:

i. Training in becoming a detached observer of one's own performance.

ii. Training in stating goals in observable and assessable terms.

iii. Training in devising alternative pathways towards the same end.

iv. Training in the logical skills of comparison, assessment and evaluation of alternative techniques.

v. Promotion of curiosity, creativity and adventurousness with regard to teaching practice.

vi. Training in the ways that teacher educators can learn from others (e.g., direct observation, listening to or reading about another's teaching practices).

vii. Training in experiencing the rewards of successful teaching practices.

f. ORGANIZER AND MANAGER OF INSTRUCTIONAL PRACTICES

i. Both team and individual instruction should be organized and managed in such a way that they will achieve the objectives in the most efficient manner. Efficiency is judged in terms of:

(1) Carrying an optimal work load

(2) Economy of resources – time, efforts, and money

(3) Meeting the objectives of both individual personalized instruction and group teaching

(4) Coordination of activities through time-tables based on modern techniques, e.g., the Critical Path Method (CPM).

ii. Setting and maintaining a feedback system for collecting data from student teachers, classroom teachers, supervisors and administrators, in using procedures such as:

opinionnaires

rating techniques

interviews

observations

exchange of plans of organization

agreement with the overall instructional and administrative plan of the system

informal exchange of ideas, and

teacher-student tests (e.g., achievement tests)

iii. Set up and maintain in easily usable systems, the necessary equipment for instruction (audio-visual, laboratory equipment, etc.), and the resource materials (books, films, etc.).

g. THE TEACHER EDUCATOR AS A MEMBER OF THE COMMUNITY

i. Effective role playing means that the teacher educator achieves the community's and profession's interests in such a way that their objectives and activities are integrative and mutually supporting.

ii. The teacher educator must differentiate, appreciate, maintain and promote his agent role between lay and professional groups in such ways as:

(1) Developing a simple, understandable language of communication for the general community, through such means as:

- radio, T.V., newspapers
- school visits
- special bulletins
- social and entertainment programmes
- open house

(2) However, for professional groups, the language of communication can be more technical. Besides using the general mass media, effective channels of professional communication will be sought. These channels may include:

- panel discussion and other group techniques
- newsletters
- submission of reports and studies in professional journals
- observations, visits

iii. Transmit and reflect the aspirations, values and appropriate goals and wishes of the community and the professional associations in his activities as a staff member.

iv. Develop community relation models, experiment with them, evaluate them and improve the models on the basis of their moral and financial support, the image of the profession, and the popular voice which the community expresses.

h. CONTINUOUS SELF-DEVELOPMENT

A set of selected references could be assembled on such topics as "self-actualization," "self-discovery," and on various methods of accomplishing increased self-knowledge and growth (psychotherapeutic processes, sensitivity-group training, autobiographical reflection techniques, and the like).

Alternative procedures could be activated to assist teacher educators in such growth as:

i. Personal assessment feedback (cf., University of Texas manuals).

ii. Opportunity to use skilled personal counselling, with strict preservation of confidence.

iii. Group sessions conducted by trained, skilled, responsible people, aimed at enhancing self-understanding and self-respect.

iv. Guidebooks for private self-appraisal (cf. Horney's Self-Analysis).

v. Other techniques, to be borrowed or invented.

A guidebook could be developed to help the teacher educator identify his own individual, short-term and long-term goals for self-enhancement; to suggest ways of measuring growth toward each specified objective; and specified techniques for telling when it may be desirable to alter or even abandon a goal, changing direction for sound,

personally important reasons. This set of processes would apply both to growth in professional wisdom and effectiveness, and to growth in personal integration, satisfaction and self-actualization.

i. THE TEACHER EDUCATOR AS A LIVING MODEL

One of the teacher educator's major explicit purposes is to act as a model to his student teachers, exemplifying by his actions the role functions and principles described in (a)-(h) above. Both guidebooks and illustrative "protocol materials" need to be worked out, tested and discriminated, to help teacher educators effectively carry out this aim.

Perhaps one essential practice is to point out to student teachers exactly what the teacher educator is doing, and why he is doing it. The documentation should point out the probable or possible consequences of alternative courses of action. Beyond that, it is essential to the spirit of this programme that the student teacher be left genuinely free to choose his own course of action, while being taught to observe carefully and to evaluate the consequences of his actions. Thus, the teacher educator provides a model for wise decision-making, but he does not impose any specific decisions on his student teachers merely by the weight of his authority.

D. GENERAL PRINCIPLES OF PROCEDURE

1. Select one or more teacher educator roles to study, after making the best possible survey of national needs.
2. Select a manageable-sized experimental group and a manageable-sized experimental faculty.
3. Follow sensible working procedures that satisfy important, roughly measurable criteria, using the strategy of successive approximations to a desired objective, rather than classical experimental design. Experimental design may be quite useful for specific parts, but it should not dictate the overall programme.
4. Be modest and tentative in recommending future action based on findings at any point.
5. Strive to link up the teacher education R&D work with other educational R&D work in the nation and in the region.
6. Start the local programme with a pilot operation, using the following steps:
   a. Select by locally appropriate criteria, a group of teacher educators.
   b. Identify the professional and relevant personal concerns of these teacher educators.
   c. Discuss the proposed programme model with them.
   d. Activate the teacher educator team to start carrying out the programme, as the team has adopted it.
   e. Display existing prototypes of the teacher educator roles.
   f. Have each individual teacher educator select a new role activity and try it out.
   g. Set up feedback systems that teacher educators can use to observe their own actions and to observe the effects of their actions.

h. Set up a continuous monitoring system, with a reasonable time-table, to keep track of the evolving role practices which the team generates, tests and modifies (documentary records of the instructional process).

   i. Select appropriate conceptual systems for deciding what to record.

   ii. Adopt appropriate recording procedures.

   iii. Play back the findings and interpret them.

   iv. Make a periodic synthesis of data from all parts of the team operation.

II. A Research Programme for Developing and Testing a Model Teacher Education Curriculum

A. INTRODUCTORY STATEMENT

The suggested line of approach to be followed by a Teacher Education R&D Centre in constructing and testing a new curriculum for teacher education takes note of the recommendations of the Regional Meeting on Curriculum Development for Teacher Education in Asia held in Quezon City (1969)* and of the Sub-Regional Workshop on Teacher Education held in Bangkok (1971).** The integration concepts and models worked out in the Report of the Sub-Regional Workshop *(Figures 11, 12, 15)* are considered as offering a pattern of curriculum design which is different from the traditional. The conceptual approach to the curriculum in which each component is sequenced and integrated both vertically and horizontally is accepted as the starting point. The general education and the subject-matter specialization parts of the teacher education programme are of fundamental importance and in great need of improvement. They should be given early and major attention in the Asian Region. The terms of reference of this Working Group Meeting, however, are the professional education parts of teacher education. Hence, the R&D effort here suggested is confined to the professional education component of the teacher education curriculum.

Student teachers bring with them interests, attitudes, habits, and rigid forms of thinking which come in the way of a healthy outlook and frame of mind so necessary for professional preparation. It is therefore advisable to ascertain by careful diagnosis during the early days and weeks of their training the nature and extent of these shortcomings. Attempts should be made to specify for each individual in the training programme personal difficulties, inadequacies, and undesirable habits. Suitable instruments will need to be devised for this purpose. Interviews, observations and autobiographical sketches may also be made use of.

B. DEFINITION OF THE PROBLEM AND PROJECT JUSTIFICATION

The Asian Member States of Unesco have been undergoing revolutionary changes in social and political life during the last two decades. The emergence of national independence in countries which were under the political domination of foreign powers released forces seeking to discover national identities and to shape institutions, processes, and products in ways which symbolized their national aspirations or reflected their cultures and concerns. Everywhere the desire for national development in the cultural and economic aspects of life, and education as the process through which to effect it began to express itself. National languages began

---

*Regional Meeting of Teacher Educators in Asia, Quezon City, 23 September – 3 October 1969, *Curriculum Development in Teacher Education in Asia;* Final Report of the Meeting . . . (Bangkok: Unesco Regional Office for Education in Asia, 1970).

**Second Sub-Regional Workshop on Teacher Education, Bangkok, 1-12 November 1971, *Integration and Modernization of Teacher Education Curriculum;* Final Report of the Workshop. . . (Quezon City: Asian Institute for Teacher Educators, 1972).

to replace foreign languages as the medium of instruction at the school level. Efforts were made to widen educational opportunity to all children of both sexes, in the school going age group. Plans were initiated (cf. Karachi Plan, 1960) for universal compulsory, primary education of at least seven years' duration to be attained by 1980, and success of varying degrees has been achieved. Efforts to provide widespread general secondary education and some tertiary education were also mounted to find places for those who had completed first level education. Quantitative expansion and quality improvement did not however go together. Problems of providing adequate staff and facilities for the expanding school systems were complicated further by new demands of various kinds, arising from the process of social change and economic development. Education for social change involved democratization of educational provision and processes and education for economic development involved the widening utilization of science and technology. Education today is, therefore, looked upon as an investment, devoted to manpower development for the exploitation of the human and natural resources of the country for the attainment of a satisfying standard of life. The notion of manual labour as an illiberal pursuit is gradually being given up and attempts are being made to install in every kind and stage of education the vocational principle, and to provide a greater measure of vocational and technical education.

In the Asian context, the moral and material aspects of life are not divorced from each other, and a happy marriage of the two have therefore to be entrenched in the school system. The teaching force for the new task has to be trained with a new orientation which is truly national and human and with the necessary attitudes and skills for utilizing science and technology for the enrichment of life. The teachers' role has to be broadened to serve the community through the school and outside of it. The tools to be used for this purpose have to be modern in the sense they embody the wisdom of the world and yet are native to each culture. This means educational resources like books, and other teaching materials will have to be produced mostly in the country and the methods of instruction have to be adapted to the genius of the people and directed towards developing the spirit of enquiry and discovery, creative ability and democratic decision-making in each country.

The urgency of an Asian programme in teacher education is noted when it is recognized that a majority of the people of the world live in Asia. A special feature of the need stems from the fact that more than three-fourths of the people in Asian Member States live in villages and are engaged in agricultural or agro-industrial pursuits. There are tribals and nomads in certain areas. All of them have a right of access to equal education, and in providing schools and teachers, care has to be taken to meet their special needs. The education of girls also has to be specially attended to as a large proportion of girls are still not enrolled in schools in some of the Member States. Adult literacy and social education are also areas which need immediate attention, as a large percentage of adults are still illiterate, and many among the younger generation with only primary education to their credit are apt to relapse into illiteracy in the absence of programmes of this kind. Programmes of continuing education have to be provided for all, consequent on the explosion of knowledge which makes all knowledge out of date within the period of less than a decade, and the advances in science and technology make it essential to acquire new skills for work, whether in the field or in the factory.

New roles are expected of the teacher in Asian schools in this situation. He has to become a democratic leader, a friend and guide to his pupils and their parents in the community. As a change agent he has to toe the line of progress, and in doing so, face a medley of confused patterns of behaviour reflecting a conflict of cultures, value systems and new aspirations. Student activism will force the school to move fast towards what the new generation considers relevant and realistic to their own lives, while parental resistance, and pressures of various kinds from vested interests which stand to lose will set challenges for the teacher and the school system. Mass education through the radio and television and other media, like folk songs, folk drama and folk literature has to be employed to break tradition and generate acceptance of change. The school can no longer claim the sole right to educate people; it has to come to terms with all the other forces in the field and programme its content, methods and procedures so as to build upon their worthy contributions and combat those which are not. Teachers of today have to be trained for this wider role.

C. OBJECTIVES AND EXPECTED OUTCOMES

The main objective of this experimental study is to develop a tested teacher education programme as well as the required teaching materials which could be used as a model for all kinds of continuing professional teacher education activities which encompass both pre-service and in-service education. It is considered and planned to be the logical continuation of the work of Regional and Sub-RegionalMeetings of teacher educators in Asia which have produced proposed directions for curriculum development in teacher education. More specifically, this project aims at the following objectives:

1. Study of what is expected from various types of educational workers.
2. Study of what is now typical in teaching and educative behaviours.
3. Diagnosis of what should be done, and what experiences are needed for a better and more effective preparation of educational workers.
4. Study of the areas of competence or performance in teaching and educational activity and how these areas should be classified for later translation into teacher education programmes.
5. Development of modularized materials for teacher education programmes based on the needed experiences and conducive to expected educative and teaching behaviours.
6. Experimenting with the modular materials in an evaluative manner in order to gradually produce a complete set of tested modules for free composition of the desired programmes.
7. Transferring the setting of teacher education from the classroom in teachers' colleges to the venue where the teaching or educating actually takes place.
8. Developing a teamwork approach to both teaching and learning in the form of team-teaching and team-learning at all levels of teaching, namely, training of teacher educators, education of teachers and teaching the pupils.

9. Designing a system for the evaluation of the candidates as well as of the products of teacher education programmes in a way that would maximize the outcome of these activities.

10. Developing a guide prescribing the procedure for the adaptation of these modular programmes or any other techniques to the specifications of a given local or national situation.

It should be noted that some of these objectives could be realized through undertaking separate and independent projects and incorporating their end results into the final outcome of the main project, while some others would have to be implemented in a logical sequence. What is finally expected to be developed is both the model as well as required materials, methodology and know-how for the preparation of the full range of educational workers, so that these can be adapted and used for every occasion with the least amount of preliminary work and the hope of producing maximum effectiveness.

D. METHODOLOGY

1. Phase One: Preliminary Studies

a. Study of what is expected from various types of educational workers

This study would be composed of the following components:

i. Documental research on the formulated expectations of the community or its political and administrative agencies.

ii. Survey studies of the opinion and expectations of parents, community leaders and other laymen, teachers, educational administrators, and pupils.

iii. Meetings and consultation with educational experts and innovators.

iv. Analytical studies of the short-range and long-range national development plans.

The end results of all these various investigations would then be integrated into a coherent list of the expected and desired teaching and educative behaviours.

b. Study of what is now typical in teaching and educative behaviours

This study would be composed of the following components:

i. Video-tape and other types of recording, of a sample of the behaviour of teachers and educational workers in and out of the classroom. This should be done in a way that the full range of educational institutions and educational workers as well as a wide variety of situations could be recorded with sufficient frequency.

ii. Study of autobiographical accounts given by the teachers and educational workers explaining their decisions and actions on various matters and in differing situations.

iii. Recording of critical incidents as reported by pupils, teachers, and other school workers, using critical-incidents techniques developed for the study and improvement of supervisory behaviour.

iv. Formation of small discussion groups of teachers on various critical teaching behaviours and the observation and recording of the proceedings of these sessions.

v. Survey interviews with a well selected sample of pupils, teachers, other school officials and parents on the behaviour patterns of the teachers and educators.

vi. Anthropological participant-observer studies of schools and classrooms.

End results of all these various investigations should be integrated in a coherent list of the typical behaviour of the teachers and educators as now exhibited.

c. Experiences needed for the better and more effective preparation of teachers and educational workers

A careful comparison of the final outcome of the two previous surveys would enable us to make a diagnosis of what should be done. The result of this study could be presented in one of the following four ways of classification of the requirements for teaching and educative behaviour:

I	II	III	IV
Knowledge Skills Attitudes	Competencies	Technical Skills Professional Decision-making	Performance Criteria

The system of classification to be adopted needs further research and study so that the programme of production and experimentation could include components appropriate to the expected curriculum. On the basis of the classified components, a number of experiences would be identified – the experiences which prepare the candidates to manifest the desired behaviours. These experiences should then be carefully defined and translated into appropriate modules.

2. Phase Two: Development of Training Programmes and Materials

a. Mode of teaching and learning

The present system of teacher training includes separate courses which are taught by individual teachers who are supposed to be specialists in their own fields. These courses are often unrelated and therefore do not appear relevant in the teaching situation. The *Report* of the Second Sub-Regional Workshop on Integration and Modernization held in Bangkok (November 1971), has emphasized the need for correcting the deficiency of the teacher education curriculum in this regard.

In order to bring an element of reality and effectiveness in the teacher training programmes, it will be necessary to change the present mode of operating a training programme. Instead of having a staff of

teacher educators (specialists in school subjects and pedagogy), several categories of members should be included. The composition will depend on the mode of teaching and learning as also on the activities (learning experiences) to be provided.

Instead of one person teaching a specific course, a team should undertake teaching. Such team teaching will obviously include explanations, group discussions, tutorial meetings and inter-team consultations. In order to provide opportunities for interacting to each other and profiting from each other, a team-learning situation should be created. The assumption for such a suggestion is that student teachers learn not only from their teachers but also from their class fellows. Similarly, the staff members do not learn only from their own readings and researches but from their colleagues and students. If a team is properly constituted with a view to problem solving, it should provide learning opportunities for all the team members.

Such activities will help student teachers see the relevance of the programme and motivate them to adopt a variety of activities which alone can do away with the present teaching-learning efforts through lecturing and memorizing. The members of the team should undertake action research on existing problems in classroom, school and community settings. This will give them insight into real problems and bring the group nearer the community.

In the light of the above statement, the team which will operate the programme under consideration should consist of the following categories:

a. Student teachers
b. Teacher educators
c. Experienced classroom teachers
d. Supervisory staff (inspectors)
e. Pupils of the school

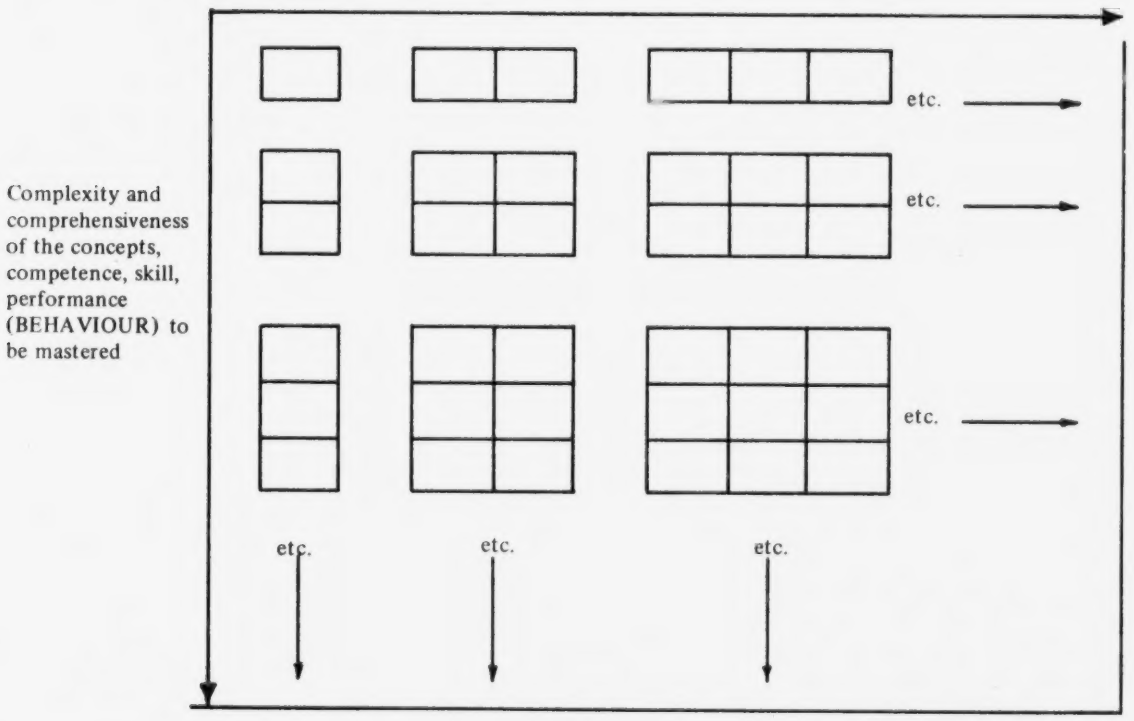
b. Modularized Materials Needed for Constructing a New Teacher Education Curriculum (Teacher Education Instructional Packages and Clinical Exercises)

If the new teacher education curriculum is to consist of experiences that will be provided in the ways envisioned in the previous section on modes of teaching and learning, it will need to be organized in ways that are significantly different from the traditionally prescribed courses in the teacher education curriculum throughout the Asian countries. Following the significant line of developments proposed in the Regional Meeting on Curriculum Development in Teacher Education in Asia (1969) and the Bangkok Sub-Regional Meeting on Integration and Modernization of Teacher Education Curriculum (1971), this Working Group Meeting in Baguio proposes that the educational R&D centres to be established in Asia should undertake the development of *experientially-based modular curriculum materials*. These can be referred to alternatively as *Teacher Education Instructional Packages*, or, *Clinical Exercises*. The essential ingredients are similar.

i. *The Modular Concept:* The advantage of modular curriculum materials is that they can be handled as building blocks which can be used to repair or replace parts of a traditionally organized programme or for the erection of an entirely new teacher education programme. These modular units consist of different sizes and shapes, and are made up of multiples of the smallest single unit. *(Figure 1)*

Figure 1

DURATION OF TIME TYPICALLY REQUIRED FOR COMPLETING THE EXERCISE

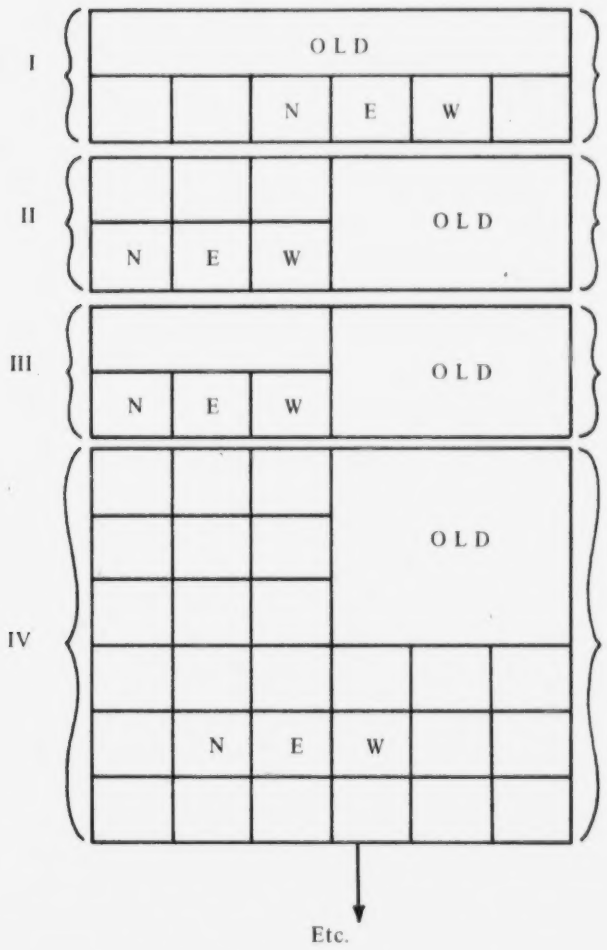


These modularized units of instructional materials may be fitted into existing teacher education curriculum, or used to build new programmes as shown in *Figure 2.*

Figure 2

BUILDING PROGRAMMES WITH MODULAR UNITS

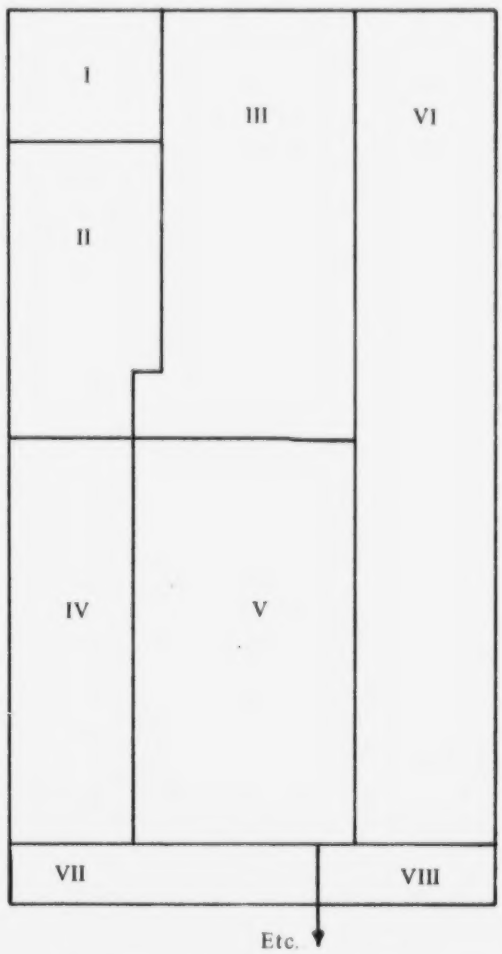
Professional Courses in a Traditional Programme



I. Educational Psychology
II. Educational Sociology
III. Methods of Teaching
IV. Observation and Student Teaching

Only an example – not for adoption

A New Programme Constructed from Modular Units



I. Microteaching Activities Aimed at a Few Initial Technical Skills
II. Case Studies of Classroom and Community Problems
III. Diagnosing and Treating Learning Difficulties
IV. Developing Skills in Individual and Group Evaluation Processes
V. Relating School and Community Demands and Requests
VI. Developing Decision-Making Competencies
VII. Developing Skills in and a Disposition for Exercising Professional Leadership
VIII. Criticizing Educational Practice with Theoretical Ideas from Behavioural and Humanistic Studies

ii. *Essential Parts of Each Unit:* These modular units of curriculum materials should be so designed that they can be used by individual student teachers or by student teachers in small, medium, and large groups. As far as possible, each of the packages or exercises should contain the following 7 essentials:

(1) A behavioural statement of the outcomes expected of the instructional package.

(2) Specific direction to the student teacher(s) – the learner(s) – of what he is to do or of the problem he is to solve in the learning exercises – with the appropriate and necessary forms, workbooks, outlines, etc., to guide him in his work.

(3) Illustrations of how teachers who are both good and bad (possibly also mixed) behave, and models of the expected outcome in each case. These illustrations may be in the form of narrative prose descriptions, typescripts from classrooms, 35MM time lapse photography, video-tapes, or other forms of audio and visual records.

(4) Provision of opportunity for the student teacher(s) to carry out the programme he has designed or planned. This means providing him individually, or with groups of his fellow student teachers, a field setting in which to perform.

(5) Provision of opportunity for the student teacher(s) to receive feedback on his performance. This may be in the form of observation by peers, teachers, or supervisors (in which case the instructional package will contain observational forms for such purpose). It may be in some form of audio or video tape recordings of his performance for immediate as well as long-term use.

(6) Provision of opportunity for the student teacher(s) to judge his performance in the light of the standard set forth in the original behavioural objectives.

(7) Provision of opportunity to re-plan and to perform again in a different situation if it appears necessary from (6) above to do so – repeating the cycle of perform(4)/feedback(5)/perform(7)/again, until the desired standard of performance has been reached.

A very brief example of a clinical exercise that might be produced in an R&D Centre for teacher education in Asia would be as given below:

Name of Product

Production of an instructional package in the form of a workbook on *How to Diagnose and Treat a Particular Learning Difficulty of a School Pupil.*

Behavioural Objectives (#1 of the essential elements)

The behavioural objective of the exercise may be stated as the ability to correctly identify the cause of a reported learning difficulty of a pupil in school and to devise and execute a programme of treatment which objectively demonstrates that noticeable progress has been made by the pupil in overcoming the difficulty.

Directions and Guidelines (#2 of the essential elements)

The materials necessary to guide the student teacher(s) through such an exercise could be organized into several sections as follows:

(1) A form on which the student teacher outlines

a) Where and from whom he secured his case, i.e., the pupil and his reported difficulty.

b) The relevant background data about the pupil, including his observation of and interview with the pupil and his parents if it appears appropriate; record of test results; the teachers' report on the pupil; health record, etc. It may also include any other data that the student teacher felt were necessary to collect in making a diagnosis of the problem – provision should be made in the outline for him to report on individuals, books, or other sources he used in helping the pupil with his diagnosis and subsequent treatment.

c) His tentative hypothesis concerning the probable cause of the learning difficulty.

Models (#3 of the essential elements)

(2) The workbook might contain at this point, two well documented case studies, one of a learning difficulty that was successfully identified and treated, and the other of a case that was poorly identified and where the results were not successful.

Programme Plan (#4 of the essential elements)

(3) The workbook next provides space, with appropriate headings or guidelines, for the student teacher to set forth the programme he plans to follow in working with the pupil to enable him to overcome his learning difficulty.

Implementation and Evaluation (#4 and #5 of the essential elements)

(4) The workbook provides space for the student teacher to report in detail how he carried out the remedial programme and the results achieved through the attempt.

Recycling (#6 and #7 of the essential elements)

(5) If the results have been successful, the exercise is concluded. If not, the workbook provides space for the student teacher to record his speculations as to why the treatment was not successful, including the supportive reasons for his speculations. At this stage, the workbook directs the student teachers to obtain a new workbook and to begin the process again.

This exercise might be used by the student teacher in locating his own learning difficulties. This illustrates a clinical exercise that is of a rather complex nature which would require several weeks or months to complete.

A much simpler example which is about a less complex skill and which would require a shorter time may be found in one of the minicourses which have been developed by the Far West Educational Laboratory, Berkeley, California, and based on the microteaching

and technical skills of teaching models originally developed at the Stanford Center for Research and Development in Teaching, Palo Alto, California.

c. Site for Experiences (School and Community)

By now it appears clear that if the proposed objectives and the recommended experiences and instructional materials are to be followed, the setting for operating a substantially greater part of the teacher education curriculum, which has traditionally been concentrated almost solely on the college campus, will have to be moved to the schools and to their communities – with the exception that, if and when the training of teachers for the tertiary level is undertaken, its appropriate setting would be on the college campus and its community.

The present discontent with the programmes of teacher education in Asia stems from the fact that teacher education institutions work in isolation from the school and the community which they are expected to serve on a producer-consumer relationship. They are not alive to the needs and aspirations of the community as reflected in the programmes of schools. It would be most helpful to take the teacher education institution to the school and the community in which the student teachers would get real and live experiences of the tasks and duties they will be called upon to perform. Their active involvement in the curricular, co-curricular, social and administrative activities of the school society will give them direct experiences of the problems of the school, though not enough to tackle them. From such experiences, their tutorial and clinical professors will, through seminars and discussions, help them deduce theoretical knowledge of educational psychology, educational sociology, educational philosophy and professional disciplines. Thus, instead of student teachers going only to college, the college also goes with them to the school. In addition, the wide chasm that so often separates theory from practice may be further narrowed if the many experienced teachers and administrators from the schools whose participation is so vital in teacher training were given proper recognition and status as members of the staff of the teacher training institutions. An additional step essential in closing the theory-practice gap is for the college faculty members to assume some responsibility for working in the schools, which would help them keep in close touch with the needs and developments of the school system.

d. Evaluative Designs to be Emphasized

In the initial stage of research and development which is aimed at producing new curricula and instructional materials, an evaluative design that has been called one of "successive approximations" is recommended. This means, at the outset, a clear specification in behavioural terms of the objectives to be achieved through the experimental materials. This should be followed by the design and construction and the initial try-out

of the materials under limited conditions. The next step is a report of the results. A detailed analysis, as intensive as possible, of the results would then reveal what parts of the programme have been successful, which objectives have been reached and with which pupils, what parts have not been successful and what the reasons for the failure are, if any. This is followed by a redesign of the programme to correct the deficiencies and by a second field trial in a different and perhaps even a larger situation. Again, the evaluation of the results takes place and another successive approximation by the final design is developed. This recycling process takes place until the researchers and developers are satisfied that the product is sufficiently proved so that it can safely be recommended for use on a wide scale. The foregoing plan of operation is recommended when an R&D organization is developing quite new products. What should be the procedure when a product that has been developed and field tested in another context is considered for adoption? For example, the minicourses developed in California at the Far West Laboratory, or the tutorial and clinical approach being used at Northwestern University in Illinois. It is recommended that when the adaptations that are considered necessary are made, the same initial evaluative scheme as recommended for new products be used, namely, a series of successive approximations, though such extensive tests will probably not be required as in the case of new products. The "foreign" products may need to be tried only once or twice before they can be perfected for local use or rejected as unsuitable for application.

It is only after subjecting the products of educational research and development to a series of successive approximation evaluations that the stage of traditional experimental and control design studies is reached. With a refined and tested product ready for wide-scale adoption in hand, it may be prudent to put it through yet another test, this time in a rigorously designed comparative study to determine whether or not it reaches the objective in a statistically reliable fashion much better than does a traditional practice adopted with a similar aim. The experimental and control groups must be carefully formed and sampling shall be analyzed with the best statistical procedure. These comparative studies would be made when recommendation is to be made for the adoption of the product or practice on a wide scale within a country. Such experiments should be attempted across national boundaries when it is desired to determine whether a recommended product or practice will work well generally in all countries or better in one country than in another. It should be recognized that this evaluative design confronts real problems when it is attempted in more than a single country.

In addition to an evaluative design for testing the products of educational R&D efforts, a centre for teacher education should give attention to the widespread problem of improving the methods by which individual pupils and student teachers are evaluated. While the problem is too extensive here to be treated, attention is called to the necessity for developing materials that will

i. help shift the emphasis from evaluation by others to evaluation by self, and

ii. enable the person being evaluated to be compared at different intervals of time with his own progress in relation to his own capacities and his own accepted objectives – as well as with the group, which is more typically the practice now.

It should be remembered that an essential feature of any evaluative programme in teacher education is that it should take note of the results of the initial diagnosis of limiting factors which the student teacher brought with him (see above) and the extent to which these have been remedied during the course of the training programme.

In conclusion, it needs to be stressed that in an evaluative design note should be taken of the danger of fragmenting the learner and the programme into isolated and unrelated parts which a behavioural approach may produce. This approach needs to be supplemented by some attention to the whole of a pupil's learning and behaviour and the situation in which he operates so that his unique personality and the character of the total teaching and learning programme are not lost sight of.

E. A GUIDE FOR ADAPTATION TO SPECIFIC SITUATIONS

The teacher education curriculum developed at an R&D Centre after a process of immediate and perspective planning, successive approximations and experimentation with experimental and control groups, will be ready for adoption on a national scale. Since it is neither possible nor necessary for every country in the region to repeat the same procedures in order to develop its own model programme of teacher education, it would be quite appropriate for it to adapt the newly developed programme, whether it be of another national R&D Centre or of the regional R&D Centre, to its specific needs and conditions. The following procedures will be helpful in such adaptation:

1. A team of experts in curriculum development in a country launching the new programme should visit the R&D Centre where the programme has been developed and acquaint themselves with the programme at all stages of its development from conception to perfection at the Centre and in the field. A series of conferences with the experts, fieldworkers and persons concerned with the development of the programme will facilitate a clear understanding of the problems and difficulties that might have been encountered during the process of development and how they overcame them.
2. It will be necessary to make a survey of the existing curriculum in order to discover its deficiencies and shortcomings.
3. It may be necessary in some countries to translate the model curriculum and the modularized materials into the local language.
4. The modules should be modified to suit the needs and conditions of the country on an *a priori* basis by the team of local experts. For instance, where electronic devices are not available or practicable in the rural areas, some

alternative aids produced from local materials may have to be substituted for the former.

5. The programme should first be tried out on a small scale; its deficiencies should be rectified after the feedback; and the model should be modified accordingly. Then it should be tried out on a larger scale, modified and improved upon. Thus the experimental process of successive approximations is carried on till the team of experts is satisfied that it is ready for use with experimental and control groups.
6. The programme is tried out with experimental and control groups, and modified further if necessary in the light of the experience gained in order to make it as perfect as possible.
7. The model teacher education curriculum so developed is now ready for adoption on the national scale, it being assumed that it has built-in devices for feedback, modernization and flexibility for local variations.
8. This process of adaptation should be a continuous one.

III. Identification of Technical Skills of Teaching and Development of Training Materials Together with Suggestions for Development of a Model for Analyzing a Classroom

A. JUSTIFICATION

Teacher education has had to proceed with little benefit of research-based knowledge of teaching and teaching effectiveness. Recent advances in the conceptualization of teaching roles both in and beyond the classroom and in the development of research methodologies show promise in overcoming gaps in knowledge about teaching. The problems are:

1. to apply these concepts and methods so as to identify technical skills of teaching,
2. to incorporate this knowledge into the curricula of teacher education programmes, and
3. to put this knowledge into a form which will assist teachers to analyze, evaluate and improve their teaching.

There are several arguments in justification of the adoption of this project by the proposed Research and Development Centre in Teacher Education in Asia. Some of them are as follows:

1. In the final analysis, the success of a teacher education programme depends upon its capability to provide teachers who display desirable characteristics, attitudes, knowledge and skills. Its chances of doing this will be greatly increased if the nature of these desirable characteristics, attitudes, knowledge and skills is known and if they can be incorporated within the curriculum of teacher education.
2. Till now attempts to gain the required knowledge of teaching and of teaching effectiveness have been uncoordinated and, therefore, there are many areas of potential teaching skills that have not been adequately researched on. The proposed Research and Development Centre would be able to provide the required coordination.

3. Knowledge about desirable qualities and behaviours of teachers, and materials and techniques developed to assist in their acquisition, which have come from non-Asian cultures have been generally accepted as having universal validity. They might not be as applicable in Asia as they are in those other cultures. It is desirable, therefore, that research on the identification of these desirable qualities and skills, and the development and evaluation of related instructional materials, be carried out under Asian conditions.

B. OBJECTIVES

One way of identifying major areas in which skills need to be acquired is to consider the relationships which teachers have with other participants in the educative process, such as administrators, parents, community; colleagues and pupils; and analyze the tasks involved. For example, teachers require skill in participating in administrative decisions and in initiating proposals to administrators. Skill is required in reporting pupil progress to parents and in arousing support and participation from them. Teachers need skills in educating the community to support the school and in seeking enlightened participation from it. They also require skills with respect to specialist personnel, for example, in referring pupils with special problems and in obtaining maximum benefit from resource personnel. Since their success is partly dependent upon successful relationships with other teachers, skills are required in those relationships too. Primarily, however, the teacher's task is to form successful relationships with pupils.

The term "technical skills of teaching," as used in this proposal, refers specifically to those activities of teaching which are especially effective in bringing about desired changes in pupils. For example, where it is thought desirable for pupils to engage in divergent and creative types of thinking it might be found that an effective way of achieving this objective is for teachers to ask "open-ended" types of questions, such as, "What might life in the United States be like today if the Spanish Armada had defeated the British? " Where it is thought desirable for pupils to be able to recall subject matter knowledge it might be found that an effective way of achieving this objective is for teachers to review the content covered in a lesson at its conclusion, rather than to recapitulate it at the beginning of a subsequent lesson. It should be emphasized, however, that technical skills of teaching are probably related to each other in the sense that the attainment of any particular objective is unlikely to depend upon a teacher's displaying any single category of behaviour. Teaching is not a fragmentary process but an integrated one and teaching skills are likely to occur in sets of behaviours which might be termed "competencies."

The acquisition and application of these various classes of skills are the most important among the general objectives of the teachers' professional education and the experiences provided for its recipients need, therefore, to be designed with them as bases. *Figure 3* is a schematic representation of the ways in which various components of a teacher education programme might be related to the various classes of skills.

The type of broad framework suggested above might serve to guide the pursuit of the following objectives of this project:

1. Through conceptual analysis of teacher roles both within and beyond the classroom, to identify major areas in which skills, especially technical skills of teaching, need to be identified and developed (supplementary materials attached to this proposal provide an example of a conceptual model of the classroom which might be useful in relation to these objectives – see *Section D*).

2. Through the application of suitable research methods, to identify sets of specific, behaviourally defined, technical skills of teaching in a variety of contexts and in relation to a variety of objectives.

3. To prepare instructional materials which will assist the development of these skills in student teachers and teachers in service.

C. METHODOLOGY

In brief, one type of research which is somewhat productive in evidencing the nature of technical teaching skills involves a sample of teachers, at a specified grade level, teaching a number of lessons of relatively standardized content in order to promote the attainment of specified learning objectives in pupils. Tests of prior attainment of the objectives and related characteristics are applied to pupils; the lessons are recorded on video or audio-tape; and some time after the lessons have been given, criterion tests of pupil attainment are applied. Classes of high achieving pupils are then compared with other classes by detailed analyses of behaviour displayed in the recorded lessons. Those teaching behaviours which discriminate between high and low achieving classes are then taken to be indicative of teaching skills.

This basic design is repeated with changes in standardized content, or grade level, or learning objectives in search of other teaching skills, and to test the generality of previous findings. Moreover, lists of teaching skills already in use can be subjected to tests of their validity under the conditions specified.

Figure 4 indicates some major areas of child growth and development from which specific educational objectives are selected, and the corresponding areas in which technical skills of teaching are to be identified.

A variety of types of materials are envisaged in relation to this objective. Firstly, printed materials containing the categories of an observational schedule used in observing the teaching skills, and examples and exercises in its application, would be required. Secondly, films or video-tape and/or audio-tape models of the performance of the skills would be needed. Previous research on the acquisition of desired behaviours by teachers and student teachers suggests that the printed as well as audio and visual materials should be attractive and in a form which promotes active use of their recipients.

The initial development of these materials would involve the processes of research, production, testing and revision until the developers are satisfied that the materials are in a suitable form for rigorous experimental and field testing. The stages in the initial development are illustrated in *Figure 5*. In this figure, it is shown that the process begins with research findings as to the nature of the skills to be acquired, and continues with a team of researchers, writers, designers, and printers till it results in producing an initial set of instructional materials,

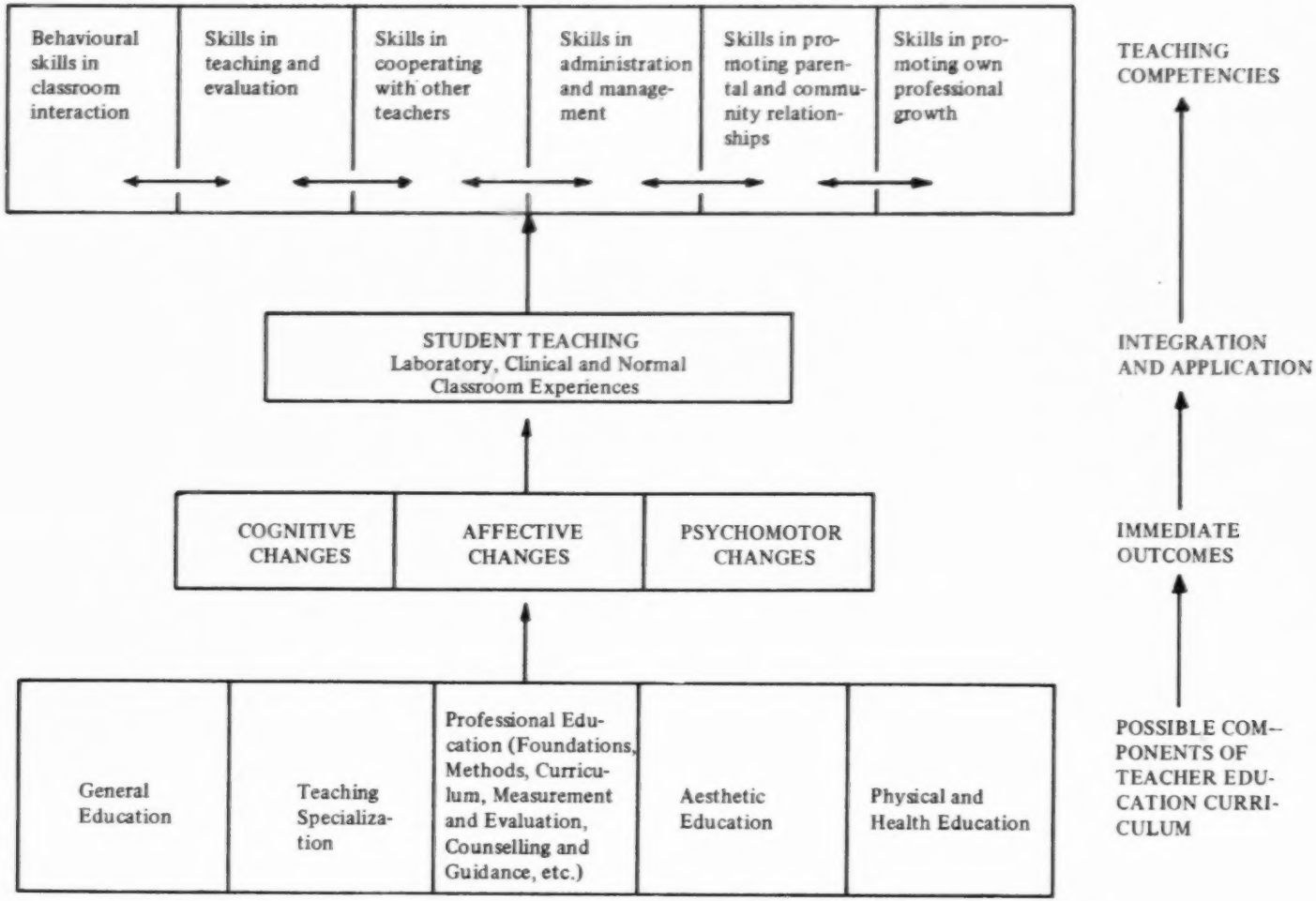

Behavioural skills in classroom interaction
Skills in teaching and evaluation
Skills in cooperating with other teachers
Skills in administration and management
Skills in promoting parental and community relationships
Skills in promoting own professional growth
TEACHING COMPETENCIES
STUDENT TEACHING
Laboratory, Clinical and Normal Classroom Experiences
INTEGRATION AND APPLICATION
COGNITIVE CHANGES
AFFECTIVE CHANGES
PSYCHOMOTOR CHANGES
IMMEDIATE OUTCOMES
General Education
Teaching Specialization
Professional Education (Foundations, Methods, Curriculum, Measurement and Evaluation, Counselling and Guidance, etc.)
Aesthetic Education
Physical and Health Education
POSSIBLE COMPONENTS OF TEACHER EDUCATION CURRICULUM

Figure 3: **THE PLACE OF SKILLS IN THE TEACHER EDUCATION CURRICULUM**

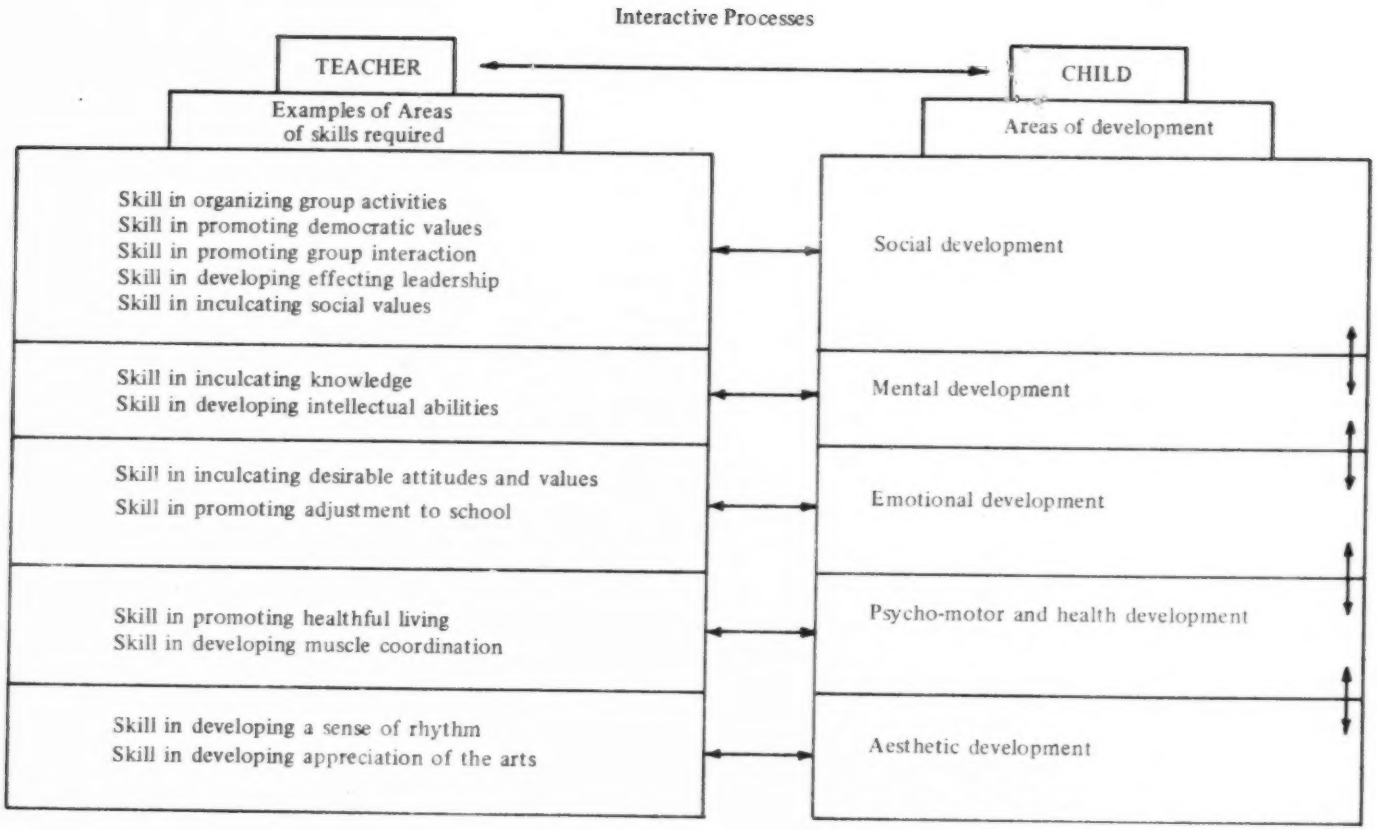

Interactive Processes
TEACHER
CHILD
Examples of Areas of skills required
Areas of development
Skill in organizing group activities
Skill in promoting democratic values
Skill in promoting group interaction
Skill in developing effecting leadership
Skill in inculcating social values
Social development
Skill in inculcating knowledge
Skill in developing intellectual abilities
Mental development
Skill in inculcating desirable attitudes and values
Skill in promoting adjustment to school
Emotional development
Skill in promoting healthful living
Skill in developing muscle coordination
Psycho-motor and health development
Skill in developing a sense of rhythm
Skill in developing appreciation of the arts
Aesthetic development

Figure 4: **AREAS OF TEACHING SKILLS IN RELATION TO AREAS OF EDUCATIONAL OBJECTIVES**

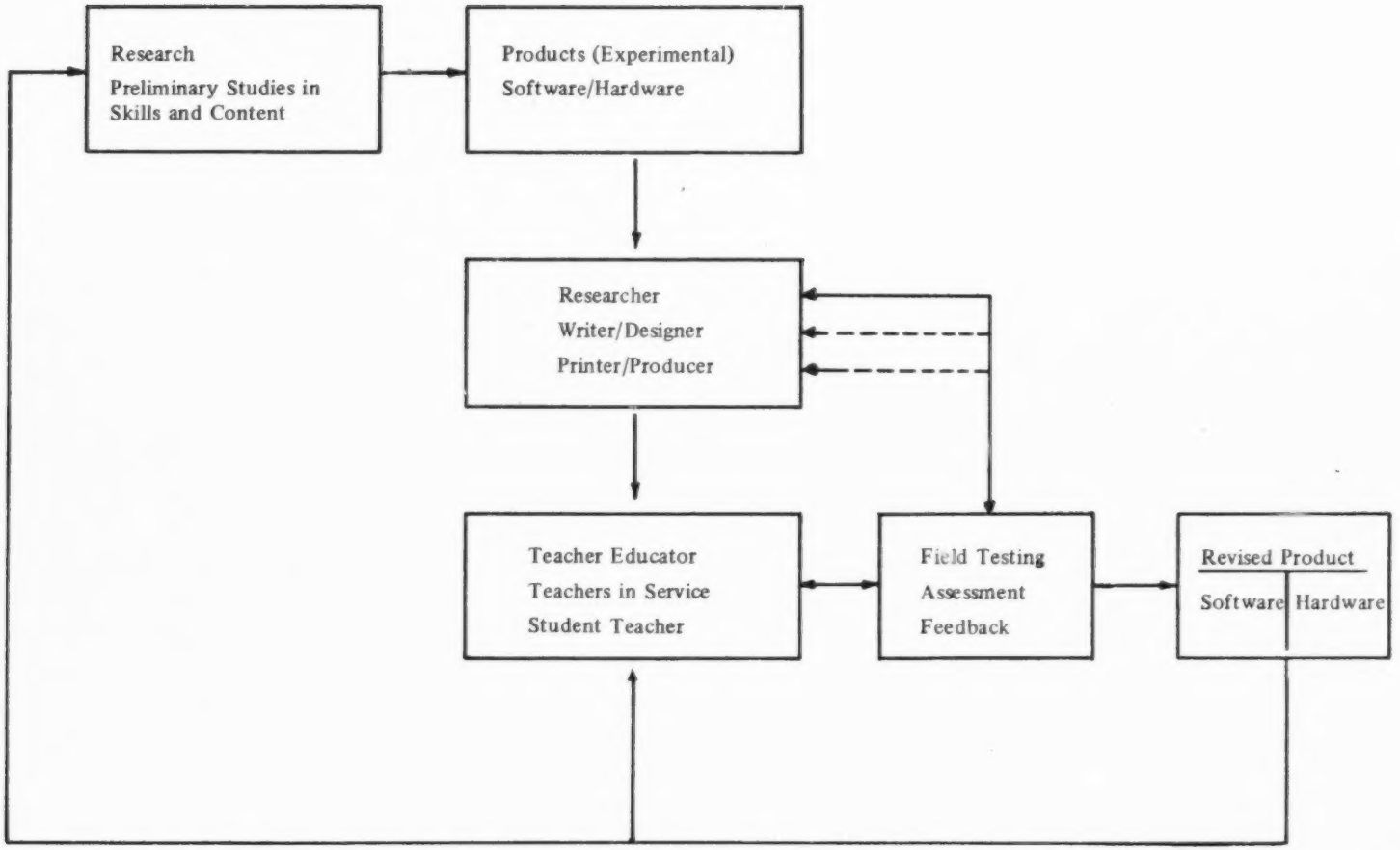


Figure 5: **A MODEL FOR THE PREPARATION AND PRODUCTION OF MATERIALS FOR TEACHER EDUCATION**

both software and hardware. This initial set is then applied by researchers or teacher educators and teachers to student teachers in a field test. The developers are then given feedback on the suitability of the materials and, as a result of suggestions and criticisms, revisions are made. This process continues until the developers and users are satisfied with the materials.

At this stage, the materials should be subjected to rigorous experimental and large-scale field testing. Their effectiveness in promoting acquisition of the skills could be tested by experimental studies comparing equated groups in a traditional experimental group/control group design, or by studies using a single experimental group design, starting with a base-line measure of skill performance and observing changes in these performances after repeated exposure to the training materials. An important additional criterion of the suitability of the materials would be the reactions of trainees to them. Materials which do not have appeal to users are unlikely to be effective.

D. SUGGESTIONS FOR DEVELOPMENT OF A MODEL FOR ANALYZING A CLASSROOM

The contextual environment of teaching includes the inter-relationships within and cutting across the following groups: teachers, students, and administrators in the school and the school system; counsellors, remedial and psychological specialists and resource personnel in teacher training institutions; the parents; the community; physical facilities, instructional aids and materials and school records; institutional organization; working conditions, salary, and workload of teachers; and attitudes of parents, administrators and community toward teachers *(Figure 6)*.

Pertinent characteristics of the teacher include age, sex, marital status, number of children, training and degrees, travel, social background, length of service in school and in grade level, school responsibilities other than teaching, community responsibilities, leisure-time activities, health and personality factors like appearance.

Factors in class analysis include sociometric analysis; subject matter achievement, reading level, intellectual ability and their interrelationships; ratings of students by the teacher on such characteristics as personal liking, study habits, ability to concentrate, promise for the future as regards college and career, acceptance by other pupils, etc.; teacher's perception about students and the way in which it is used in areas such as family background, interests, achievement, reading level, etc.

Comparisons are suggested between the purposes as visualized by the teacher and by students regarding the course, and about each of the activities of the course together with students' estimates of the liking, frequency, and value of such activities as examinations and tests, discussions, lectures, excursions, motion pictures, etc.; teacher and student interests as revealed in interest indices; social beliefs as revealed on liberalism-conservatism scale; and by social strata.

A comparison of the ratings of the teacher by students, administrators, and by self on such characteristics as personal liking, fairness in grading, fairness in decisions, exposition ability, ability to keep discipline, knowledge of the subject, etc.

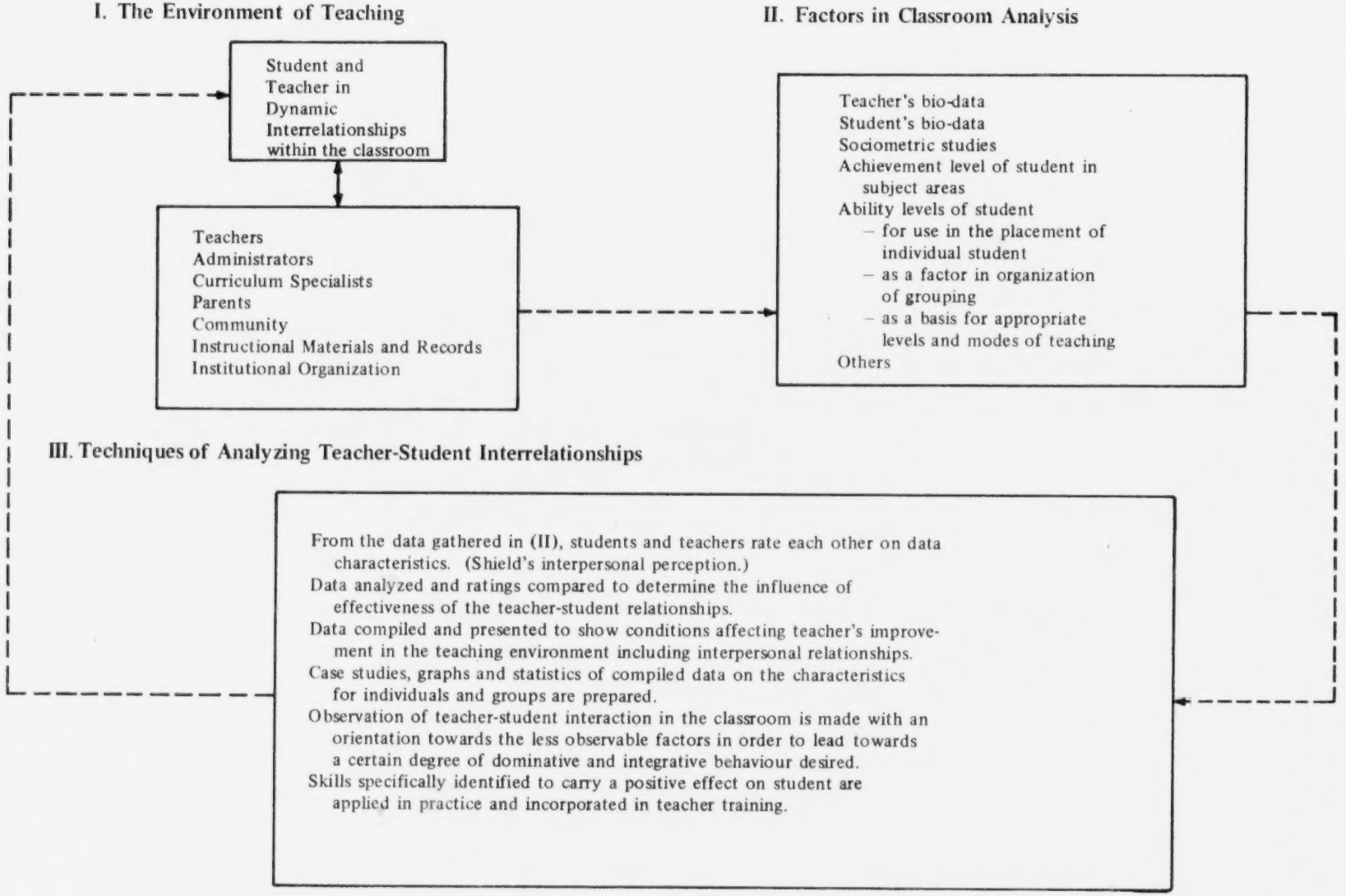

I. The Environment of Teaching
Student and Teacher in Dynamic Interrelationships within the classroom
Teachers
Administrators
Curriculum Specialists
Parents
Community
Instructional Materials and Records
Institutional Organization
II. Factors in Classroom Analysis
Teacher's bio-data
Student's bio-data
Sociometric studies
Achievement level of student in subject areas
Ability levels of student
– for use in the placement of individual student
– as a factor in organization of grouping
– as a basis for appropriate levels and modes of teaching
Others
III. Techniques of Analyzing Teacher-Student Interrelationships
From the data gathered in (II), students and teachers rate each other on data characteristics. (Shield's interpersonal perception.)
Data analyzed and ratings compared to determine the influence of effectiveness of the teacher-student relationships.
Data compiled and presented to show conditions affecting teacher's improvement in the teaching environment including interpersonal relationships.
Case studies, graphs and statistics of compiled data on the characteristics for individuals and groups are prepared.
Observation of teacher-student interaction in the classroom is made with an orientation towards the less observable factors in order to lead towards a certain degree of dominative and integrative behaviour desired.
Skills specifically identified to carry a positive effect on student are applied in practice and incorporated in teacher training.

Figure 6: **TEACHER-STUDENT RELATIONSHIPS IN CLASSROOM (For Developing a Model for Analyzing a Classroom)**

Data are compiled graphically for individuals and groups; for example, a graph of all classes is useful for administrative adjustment, and graphs of individuals' achievements, for diagnosis and remedial treatment. Case studies may be compiled and presented graphically for individuals and the group at each extreme on any characteristic to find out, for example:

What are the characteristics of those students with exceptionally high or low ability?

What are the characteristics of those students with exceptionally high or low achievement?

What are the characteristics of those students with whom the teacher considers he is in most and least effective relationship?

What are the characteristics of those students with whom the teacher is in most agreement or disagreement in social beliefs?

What are the characteristics of those students who like the teacher personally?

What are the characteristics of those students who are most liked by the teacher personally and who are most disliked by the teacher personally?

What are the characteristics of those students who receive the highest and lowest grades?, etc.

This analysis of teacher-student interrelationships in the classroom has been oriented towards the less observable factors. It is assumed that interdisciplinary observation of the classroom or simultaneous critique of video-tapes will be directed towards such facts as the selection of curriculum content, the technical devices used in its presentation, the ideas presented, the precision of language, the types of questioning, the initiation and conclusion of each curricular unit, the degree of dominative and integrative behaviour as revealed verbally, etc. As research and experimentation continue, an increasing list of skills which may be specifically outlined and practised may be identified and incorporated in teacher training and practice. Such skills aim to assist the teacher in:

Continued mastery of subject matter
Selection of content
Presentation of content and use of technological aids
Group dynamics
Organization of class
Diagnosis of individual characteristics and needs
Diagnosis of group characteristics and needs
Student development
Student self-motivation
Pre-class preparation by students
Post-class learning of students, etc.

This then links with "Identification of the Technical Skills of Teaching" in the first part of Long-Range Programme No. III.

Suggested Short-Range Programmes for Research and Development in Teacher Education

SUGGESTED SHORT-RANGE PROGRAMMES FOR RESEARCH AND DEVELOPMENT IN TEACHER EDUCATION

I. Development of Instruments for Identifying the Needs and Concerns of Teacher Educators and Student Teachers

A. Statement of the Problem

There is an urgent need to find more objective and valid ways of revealing teachers' needs and concerns, individually and in groups, in order to provide teacher educators with the information necessary to make wise, relevant selection of curricula and content for teacher education. The long-range effects of using such instruments would include:

1. Improved planning and management of teacher education.
2. Improvement of working conditions for teachers, with consequent gains in their satisfaction and effectiveness.
3. Reduced drop-out from teaching.
4. Increased community understanding and support of teachers' needs and professional concerns.

B. Objectives

To develop reliable, valid and efficient instruments for this purpose.

C. Methodology

1. Examine traditional methods of identifying teacher's needs and concerns through instruments and techniques such as:
   a. Questionnaires
   b. Interviews
   c. Rating Scales
   d. Preference Scales and Interest Inventories
   e. Written or Oral Statements
   f. Attitude Scales and Inventories

   The examination would involve the wise selection of promising instruments, their modification and adaptation to local conditions, application and refinement, and validation against whatever criteria are available. In this procedure, the principal problem will be to discover appropriate criteria for validation. Initially, the researcher may only be able to weigh one technique against another as best he can, but it may be possible at later stages of refinement to employ more powerful techniques such as factor analysis.
2. Examine the possibilities of innovative techniques to measure needs and concerns. Some of these may be the following:
   a. Use of the paired comparison scaling technique on teacher's preferred reactions to carefully selected miniature situations.
   b. Use of the Semantic Differential Technique to reveal the dimensions of needs and concerns.
   c. Use of new techniques of posing questions, e.g., the statement of the question in the form of a short filmed episode of classroom behaviour and conditions, teaching procedures, etc.

II. Two Related Short-Range Proposals

The following two proposals are related but are addressed to two different groups of educators. The first, "Every Teacher or Other Educational Worker as Manager," focuses on training teachers and other educational personnel to use techniques of effective management in conducting their operations. The second, "The Adaptation of Management Development Techniques for Use by Teacher Educators," focuses on training teacher educators to use appropriate management procedures.

A. Every Teacher or Other Educational Worker as Manager

1. Introduction

The urgent demand for rapid increase in the number of teachers and educational workers and for the improvement of their standard of performance, coupled with the variety of national projects, each requiring a considerable portion of the national income and competencies of the trained manpower, have once more persuaded the experts and researchers to reintroduce a system of team teaching in which educational workers with various degrees and levels of training specialization may work under the supervision of a highly trained teacher. In this way, it is hoped, that a larger number of pupils could receive better education than the sum total of the number each one of the members of the team could handle alone in the traditional manner. Therefore, future teacher-leaders should be able to act as efficient managers to be able to coordinate the activities of their teams, and produce the collective outcome. They should more and more act as decision-makers and be able to make timely and effective decisions.

Furthermore, every educational worker, particularly a classroom teacher, should be able to supervise and handle a sizeable number of pupils. His job in many respects resembles the job of any other supervisor or manager. He should be able to plan, organize, administer, evaluate and control the educational activities and the behaviour, whether individual or collective, of the pupils. It is only through a full understanding and sufficient knowledge of modern management theories and techniques that a teacher or other educational worker can do his job in a befitting manner.

This proposal for a project by which teachers and other educational workers are trained as "managers," using the experiences in business, industry and government, needs to be seen in the new context in which teachers are finding themselves. From being long positioned at the bottom of the educational pyramid where they were relatively powerless to make decisions, teachers are now emerging to a much stronger position with greater professional autonomy. As the concept of a differentiated teaching staff is accepted with highly qualified teachers occupying the role of team leaders, the necessity for them to be skilled in administrative and other modern management techniques becomes important as never before. This does not mean that as "managers" they will be ma-

nipulating other human beings, but rather, that they will become skilled in matters of human relationship and better enabled to work as professional equals, whether they be fellow teachers or administrators. Management training, seen in this context, means moving not toward rigid staff-line and supervisor-worker relationships but toward a model of mutually shared professional decision-making.

As we look into the near future, we can clearly observe that management training for teachers is becoming an ever-increasing need.

2. Objectives

The objective of this project is two-fold: (a) to adapt the existing management training materials and techniques from business situations for effective use in teacher education programmes, and (b) to develop original components for the teacher education programmes which would prepare every teacher as a manager. Every teacher should be able to perform managerial and supervisory tasks in leading his team as well as in handling his students.

3. Methodology

The work under this project is composed of the following phases:

a. Study of existing programmes and materials.

b. Development of original programme components for the management training of teachers.

c. Final selection of materials, techniques, and ingredients for the management training of teachers.

d. Evaluative trials of experimental programmes for the production of a tested model for the management orientation and training of teachers together with the needed materials.

During the first two phases of this project an attempt will be made to study and evaluate the existing programmes and materials and to select and produce either original or eclectic components of the programme. At the present time the market is filled with various programmes, many of which are either identical or unsuitable for use in teacher education. It is only through careful and evaluative screening that the useful and effective materials and techniques could be singled out.

Most of these materials and techniques are essentially developed for the training of industrial, government or business administrators. Therefore, we need to modify them to produce similar ones based on the peculiarities of educational situations.

In the third phase of the study, we aim at producing a composition of methods and materials which can develop proper management competencies in teachers.

Finally, we may use the successive approximation technique in testing the components of the programme and finalizing a model for this purpose. This model should be developed in such a way that it could be

easily incorporated in a shortened, expanded, simplified or highly sophisticated form, into the various types of courses and programmes for teacher education.

4. Time Requirements

The first phase needs at least a period of six months of field observation and analytical work provided that all the work in this phase is planned and arranged beforehand. The second phase may take between six to twelve months. However, this could be started simultaneously with the first phase. At the end of the first year, there could be enough information and material to start the third phase which could be completed in three months.

The evaluative experiments may continue for as long as these suggested materials or programmes are tested. However, after the first six months some materials and programmes could be ready to be used in teacher education programmes.

Therefore, the project may be initially planned for 2 years.

5. Programme and Schedule of Activities

a. Initial working group meeting of those who are to engage in the work of the first two phases and some international experts in management training. The working group would plan the observations, analysis of literature, and the type of material to be developed.

b. The implementors, a team of three, would do the field work and prepare the needed materials and components.

c. The working group meeting would reconvene to review the work and finalize it.

d. An experts' meeting would be arranged to suggest and plan the development of the experimental materials and techniques.

e. Evaluative and experimental work would follow in as many institutions and courses as possible.

f. A second experts' meeting will be called to evaluate the outcome of the project and to make suggestions for the continuation of the work.

B. THE ADAPTATION OF MANAGEMENT-DEVELOPMENT TECHNIQUES FOR USE BY TEACHER EDUCATORS

1. Statement of the Problem

It is proposed that one or more techniques of business management be adapted to the management of teacher education, with particular application to the work of a Research and Development Centre in Teacher Education.

2. Objectives and Expected Outcomes

a. To test the usefulness of any given management technique in teacher education.

b. To develop, field test and disseminate training materials for teacher educators on the use of the technique.

3. **Methodology**

a. Define criteria for evaluation of 'best' techniques.

b. Select from the list of techniques enumerated in *i, ii, iii,* below, one or more as required.

c. Try out the technique with an appropriate sample of teacher educators.

d. Record the experimental application.

e. Measure the results and evaluate them.

f. Modify the procedure if needed, and retest it.

g. Develop a communication package which other teacher educators could use to help them apply, evaluate and refine the technique in their own practice.

A partial list of potentially useful techniques include the following:

i. Training Techniques

Role playing
Simulation experiences (e.g., in-basket technique)
Case method for studying a real, complex problem
Game-playing (e.g., for practising negotiation skills)
Human relations group process

ii. Staff Development Techniques

Individual assessment and guidance
Part or reduced feedback
Job-rotation training
Incentive programme for effective performance
Suggestion system, with or without records
Morale survey
Multiple-management or participating-management
Organizational analysis and improvement

iii. Systems Management Techniques

Systems analysis: Task Analysis, Critical Path Method (CPM), Planning-Programming-Budgeting System (PPBS), Programme Evaluation and Review Technique (PERT), Time and Cost Analysis, Cost-Benefit Analysis

III. Two Short-Range Programmes on Teacher Selection

The following two programmes are alternatives which might be considered by any group wishing to launch an R&D programme on the problems of teacher selection. They contain many common elements. Both recommend work on the same variable, but one is more limited and specific than the other. Each suggests a slightly different approach.

A. TEACHER SELECTION - ALTERNATIVE 1

1. Existing Situation

Under the present circumstances in Asia, the situations and procedures for the selection of prospective teachers vary from no screening at all in countries or within countries where either the number of applicants is not sufficient or appropriate facilities are not available, to very rigorous selection programmes in places where there are so many qualified candidates that every applicant goes through, at the least, two days of examination, testing, interviewing, situational tests, and other observations. Where there are too many applicants for teacher education and no rigid selection procedures or other restrictions on admissions, there is an overproduction of trained teachers which has obliged governments subsequently to close down some of the teacher education institutions or curtail the number of annual enrolments. As against this, wherever the supply is too short and demand very high, almost anyone can have a chance to be a teacher.

In view of this heterogeneous situation, what is most needed is a model selection programme that could be easily adapted for any given situation in order to give more objectivity and success to the process of selecting students. Such a model alone could be applied extensively.

2. Project Justification

A review of the current practices indicates that none of the available selection programmes, especially those of the single-instrument procedures, meet our need in a satisfactory manner. What we want to assess is composite in nature and requires a multiple-approach programme.

Very briefly there are four different requirements which we would like to measure and use as the basis of our selection. These are:

a. Scholastic Ability
b. Academic Aptitudes
c. Physical Fitness
d. Teacher Performance/Personality

The first one could be assessed by readily available records or could be measured by the application of achievement tests. Besides achievement in academic subjects, there are usually other indications of the behaviour and character of the applicants available in school records.

The second requirement could be evaluated by the administration of objective tests which may be developed and standardized for this purpose or by using existing aptitude tests.

The third requirement, namely, physical fitness, could be evaluated by medical examination and employment interviewing.

However, the fourth component, which makes a person suitable for the educational profession, is where we need to concentrate in order to improve our selection. Some of the attributes we would like to see in a teacher are of

the type that could be developed during the training, as for example, motivation for teaching. However, there are some other traits and characteristics which cannot be inculcated by the training programme and hence, they have to be assessed at the beginning; such are emotional stability, initiative, sociability, and creative potential. The combination of these two sets of factors provides us with what we, for want of a better term, call teacher performance/personality. We have to develop and apply temperament scales and interest inventories, as well as make use of interviewing and situational tests so that we can examine and evaluate this aspect of the candidates' readiness.

The proposed project, while not rejecting the need for work to be done in all the other three components of the candidates' evaluation, specifically aims at this particular issue.

3. Objective of the Study

The objective of this project is to produce a model procedure for the selection of prospective teachers that could be used in totality or in various combinations of its parts, for a more reliable assessment of the characteristics of the applicants and a better prediction of their success as educators and teachers. More specifically, it is intended to produce a guidebook as well as a kit of materials which may help the officers in charge of the teacher education programmes to achieve better selection of participants with minimum of effort.

4. Methodology

PHASE ONE. Various techniques and facilities required for the evaluation of teacher performance/personality would be studied and appropriate tools and methods developed. This may include selection and/or development of temperament or personality scales, interest inventories, and similar instruments. Furthermore, it would seek to develop procedural materials or guidelines for:

a. Conducting interviews.

b. Conducting panel discussions of applicants.

c. Conducting role playing by applicants in the form of stage performance or playfield activities.

d. Making candidates write personal autobiographical and critical reviews of their own schooling and analyzing and scoring them, using proper guides.

e. Collecting and evaluating available school or background records.

f. Recording teaching performance in simulated and regular teaching situations.

Each one of these techniques shall be tested and refined and put in a form which could be easily adapted and applied.

PHASE TWO. A guidebook and/or a kit of materials will be prepared to show how each one of the requirements could be assessed and a single index showing the rank and preference of each applicant ascertained. The guidebook

would also explain how some of this information could be used for clinical, remedial or other educational purposes during the training course.

PHASE THREE. A validational study programme will be developed which will entail the systematic collection of all these measures and finding the validity of each one of them and also the revision of the proposed procedures and guide materials for greater effectiveness. Simultaneous efforts will be devoted to discover and delimit criteria for selection so that the selection programme could be refined and supplemented accordingly.

PHASE FOUR. Parallel to Phase Three, or at such times as are desirable, special orientation and training projects will be devised and carried out in order to prepare the educators and administrators or selection officers to make proper use of these devices so as to avoid possible pitfalls.

5. Duration

The estimated time for this project is:

Phase I: 1 year
Phase II: 1 year
Phase III: 3 years
Phase IV: 5 years

However, it may be pointed out that all these phases could be started simultaneously. There will be an evaluative process in producing the end results which necessitates making use of all these activities.

B. TEACHER SELECTION – ALTERNATIVE 2

1. Problem

One of the key problems in teacher education is that, all too frequently, those with the greatest aptitude for teaching are not the ones who are admitted to training, and large numbers of those who receive training never enter teaching or soon drop out. If better selection programmes were available, these difficulties would have been eliminated to some extent.

2. Objective and Expected Outcomes

To develop a teacher selection scheme that will discriminate, at the outset, in a substantial manner (for example, correlation of .60 or above):

a. those who will be highly successful in teaching (upper 25%) and those who are quite unsuccessful (lower 25%), and

b. those who remain in teaching for 10 years or more and those who never enter it or drop out after 2 years.

3. Methodology

a. First there is need for a comprehensive survey of current teacher selection procedures in each of the Asian countries. These could be

completed in each country and assembled, summarized and interpreted in one Centre. While such a survey will provide in-depth information, it will reveal broadly contrasting situations in the different Asian countries which will require different approaches to the solution of the teacher selection problem. For example:

i. Institutions which are prestigious and have large numbers of applicants from whom they can select only a few

vs

Institutions that have a difficult time attracting well qualified candidates, and so admit all who seek admission.

ii. Countries in which there is already an oversupply of teachers at a particular level or in particular subjects

vs

Countries where the supply of teachers is very short.

iii. Countries and regions where the bulk of primary school teachers are untrained and hence training programmes enroll mainly persons who have had teaching experience

vs

Countries and regions where almost none of the candidates admitted have had teaching experience.

iv. Countries and institutions that have had a long tradition of experience with highly sophisticated and comprehensive teacher selection programmes

vs

Countries and institutions that have had only limited experience with any systematic teacher selection programme.

In view of these diverse situations, any attempt at global approaches is not likely to be fruitful.

Two main criticisms of current programmes of selection, including the very best among them, are:

i. The ultimate criterion used against which to judge the efficacy of the selection procedures has not been how well the trainee performs at the conclusion of his training or how well he is performing after several years on the job.

ii. The failure, in those programmes that are highly selective, to admit a control group which falls below the operating standard and study how well it succeeds in comparison with those who were admitted because they met the standard, and who had completed the programme.

Any studies in teacher selection that are undertaken should attempt to correct one or both of these weaknesses.

It is essential that, in connection with criticism (i) measures should be taken for developing and adopting objective and scalable indices of teaching performance. It is recommended, therefore, that some modest attempts by

new teacher education R&D Centres be undertaken in category (iv), without disregarding the background information contained in categories (i), (ii), and (iii). Special consideration might well be given to designing and perfecting some situational performance tests in which the applicants or those enrolled are placed in teaching situations before or at the very beginning of training and then their performance evaluated along several different lines, and these data along with other autobiographical details, interest ratings and other personality assessment scores are stored for subsequent comparison with performance at the end of the training and after several years' experience in teaching.

The original design for such situational testing might easily be completed by an R&D Centre within a year. This could then be sent to a wide sampling of teacher education institutions in a country or in the region for further design modification, field testing, and reporting.

IV. A Study of Dropping Out from Teacher Education and from the Teaching Profession in Asian Countries

A. INTRODUCTION

Although the problem is presented here for study as a short-term project it is suggested that it would be possible to undertake it as a long-term one. The choice to be made as to whether this project is to be carried out as a short-term or long-term study depends upon the extent of the dropping out phenomenon in the particular Asian country. In either case, the study of this problem should be a continuous undertaking owing to the rapid socio-economic changes taking place at present in Asian countries which might have a direct bearing on the problem of dropping out in the teaching profession.

A special consideration is to be given in this project to the study of the differences in the problem of dropping out between males and females. Furthermore, close attention should be given to the possibility of the relationship existing between the dropping out of teachers and the dropping out of school pupils.

Instruments developed in Project No. I (Teacher Selection) could be very valuable in helping to identify the causes of dropping out.

B. JUSTIFICATION

The acute shortage of qualified teachers in Asia is due mainly to the inability to supply adequate numbers through pre-service teacher education programmes and partly to the loss of trained teachers from the profession. If research can identify the extent of dropping out and the reasons for student teachers and teachers in service leaving the profession, effective action can be taken to tackle the problem. In particular, information obtained through the study of this problem will reveal specific strengths and weaknesses in the recruitment, selection, training and evaluation aspects of teacher education.

C. OBJECTIVES

1. To obtain knowledge of the size and nature of the problem of dropping out from teacher education programmes and teaching in Asian countries.

2. To identify the causes of dropping out.
3. To arrive at recommendations for action to tackle the problem.
4. To test the effectiveness of the recommendations in dealing with the problem.

D. HYPOTHESES

The following are examples of hypotheses which might be supported in such a study:

1. The drop out rate from university teacher education programmes is higher than that from institutions which provide only teacher education.
2. Rates of re-entry to teaching after dropping out are higher for females than for males.
3. The institution of adequate child-care and pre-school kindergarten facilities increases the re-entry rate of female married teachers.
4. Increased employment opportunities in other vocations which accompany economic development are followed by increases in dropping out, particularly at completion of pre-service programmes of teacher education.
5. A greater involvement of teachers in educational decision-making is accompanied by a decrease in the drop out rate.

E. METHODOLOGY

1. The gathering, collating and analysis of existing statistical information about successive cohorts of entrants to teacher education programmes and to the teaching service are necessary to establish the rates of progression and the reasons for remaining or dropping out at various stages. The survey should include information on the extent to which teachers who drop out at one point in time, re-enter at a later point in time.
2. Where, as is generally the case, the types of statistics implied in (1) are unavailable, standardized procedures for securing them in the future should be instituted as soon as possible. These procedures should involve the training of student teachers and teachers in service, administrators, field workers and teacher educators in gathering the required data and in the clinical analysis of cases of student teachers and teachers in service who drop out.
3. The types of data needed in (1) and (2) above would include basic demographic information such as socio-economic status, sex, marital status, and prior educational activities as well as psychological data on abilities, personality characteristics, etc.
4. One of the techniques which might be used in this project is action research wherein the R&D Centre would use the findings resulting from (1), (2) and (3) above, to experiment with procedures designed to reduce drop out rates in a small number of teacher education institutions or among a sample of teachers in service. Here would be implemented a cycle of research and development which would be very efficient in identifying effective procedures which could then be implemented on a wide scale.

V. Feasibility Study in the Application of New Techniques to the Training of Teachers

A. STATEMENT OF THE PROBLEM

In the Asian region, the average annual increase in the teaching force during the period 1965-1968 was of the order of 193,000, while the actual number of additional teachers required annually was about 240,000. The present teaching force of about 4.3 million will have to be expanded to about 7.5 million by 1980 to cope with increased enrolments at all levels of education. Furthermore, a very substantial proportion of the existing force is underqualified or untrained. The supply of trained teachers has therefore to be increased sharply and, at the same time, their instructional efficiency has to be upgraded. These problems have to be dealt with within the constraints of limited financial and personnel resources.

Can methods and techniques such as correspondence education, broadcast media, auto-instructional devices, etc., be adopted to increase the capacity and effectiveness of the training system for teachers? These various techniques would have to be tested for the different training and educational purposes served by teacher education programmes. The use of these and other techniques may call for new forms and structures in the organization of pre-service and in-service teacher training.

B. OBJECTIVES

The study would lead to the designing of some models of experimental projects which could be carried out in a few selected countries on a limited scale and with adequate support of protocol materials and evaluation procedures. The results of the experimental projects could form the basis for extending the application of these methods and evolving appropriate modifications in the structure and organization of the training system.

C. METHODOLOGY

It is proposed that, in the first instance, a feasibility study should be made to identify the methods and techniques (and their mix) which would be relevant and practical in the conditions of Asian countries, and to analyze the cost benefits.

Annotated List of Some Additional Programmes and Projects Proposed for Research and Development in Teacher Education

ANNOTATED LIST OF SOME ADDITIONAL PROGRAMMES AND PROJECTS PROPOSED FOR RESEARCH AND DEVELOPMENT IN TEACHER EDUCATION

I. TEACHER PARTICIPATION IN R&D

The R&D project should secure the rank-and-file involvement of teachers in R&D work. The project should be so designed as to make it possible to parcel it out amongst teachers and make them productive by participation in R&D work. For example, they can have an effective share in programmes of curriculum construction. The end result of these sub-projects could be integrated into major outcomes.

II. STUDY OF ATTITUDES TOWARDS TEACHER EDUCATION

A study of the structure, content, and determinants of attitudes based on utilization of Guttman's facet theory aimed at the development of programmes which could change and positively improve the attitudes of the public towards the teaching profession.

If a cross-cultural approach be employed, certain operationally useful and socially invariate relationships could be ascertained.

III. STUDY OF ATTITUDES, EXPECTATIONS AND NEEDS OF TEACHERS

This study is aimed at a cognitive-affective-conative analysis of the psychological disposition of teachers in order to find out the important determinants or predictors of attitudes and the ways in which they can be positively modified towards meeting the pre-requisites of the teaching profession.

IV. TEACHER TRAINING RESEARCH AND DEVELOPMENT DOCUMENTATION AND CLEARING HOUSE

It is suggested that the Centre should develop a documentation and clearing house service similar to the one at the R&D Centre in Berlin. It has special arrangements for information dissemination amongst the researchers and staff.

V. IMPROVEMENT OF UNIVERSITY TEACHING

Devising a model for the improvement of professor-student interaction and the whole environment of university teaching would be a worthwhile project. The model should be devised in such a manner that it could be easily adapted by the teaching staff of the universities in different disciplines. It should be noted that the improvement in the pedagogical practices of university professors might well be a critical factor in influencing advances in pedagogical work and in changing the practices of secondary and elementary school teachers.

VI. STUDY OF LEARNING PROCESSES IN SITUATIONS WHERE NO FORMAL TEACHING IS DONE

This study is intended to investigate the processes leading to mastery of sophisticated skills in performance such as what are usually taking place in learning arts and

crafts in certain traditional societies and which are not formally taught in the schools. The objective is to make experimental applications of the findings in order to develop new approaches to teaching in the classroom and school.

VII. DEVELOPMENT OF CRITERIA AND TECHNIQUES FOR EVALUATION OF TEACHING PERFORMANCE

It is felt that the professional development of teachers is in need of certain techniques for the objective evaluation of teaching performance – in terms of objectives and outcomes. The areas to be covered are those which are not covered by the evaluation of scholastic achievements of pupils.

VIII. THE PROCEDURE FOR DEVELOPMENT OF ACHIEVEMENT MOTIVATION IN TEACHERS

For those who enter the profession because that is the only or the best possible way for employment and do not possess a sense of achievement and progress, certain approaches should be developed to gradually make them professionally devoted and productive in teaching. In Asia, it is felt that such a development could greatly enhance the performance of teachers and of educational institutions.

IX. DEVELOPMENT OF A MODEL FOR THE TRAINING OF TEACHERS TO IMPROVE THE FOUNDATION SKILLS OF PUPILS

There are certain fundamental skills which are not taught and improved in the schools in Asia because teachers do not learn how to teach them. An example of these skills is speed in reading. There should be teaching models to impart such competencies to teachers in order to change the quality and standard of learning in the Asian schools.

X. DEVELOPING A PROGRAMME FOR EFFECTIVE INVOLVEMENT OF PARENTS IN THE SCHOOLING OF CHILDREN

The R&D Centre in teacher education should study the possibility of compensating certain school deficiencies by the effective involvement of parents in the schooling of their children, including teaching. Such a project could immensely improve the achievement of the pupils in Asian schools.

PART THREE

IMPLEMENTATION

PART THREE
IMPLEMENTATION

I. Criteria for Selecting Programmes

It is quite likely, that in a developing society, contending claims for attention build up around an R&D Centre's programme because of the multiplicity of problems to be solved. Clearly, certain priorities will have to be established under such circumstances. For this purpose, therefore, the following criteria were suggested for the selection of specific problems:

a. Select the problem only after thorough investigation. It may occasionally be necessary to conduct a feasibility study to assess the needs associated with the problem.

b. Select a problem the study of which will not be beyond the available resources, both in terms of materials and persons required.

c. Some problems are more crucial than others. Select that which is of fundamental importance.

d. The problem should be such that its study could be coordinated with nationally conceived priorities.

e. It is highly desirable that the problem selected for study fits into the framework of a larger conceptual model.

f. The problem should be realistically solvable.

g. The solution of the problem should have a cost-reducing effect (if possible) as far as budgeted expenditure for education is concerned.

h. The solution should be amenable to evaluation.

i. The study of the problem should result in positive multiplier effects. One desirable result would be the production of a package or module that can replace an existing part of the programme.

j. If many problems have equal claims to be selected, the choice may be preferably limited to a few interrelated ones.

k. Finally, other things being equal, a problem which has some relatedness to one of international interest may be given preference in mounting R&D effort in its solution as means may be available to facilitate the work.

II. Organizational Questions

An educational R&D Centre, if established, has every promise of becoming a centrally essential element in the whole educational system. For, on the vitality and strength of

the former, rests to a large extent, the adequacy and viability of the latter in fulfilling the country's needs for sound human resources. In the same manner, an R&D Centre for Teacher Education would act as the heart of the teacher education activities. It should constantly receive accurate information of what is going on in teacher training programmes as well as in the schools. By lending itself as a means for subjecting the component parts of the whole to objective evaluation and for assessing the functional efficiency of each stage of the process, it should become the best qualified agency for developing new directions in teacher education consistent with the needs of a rapidly changing society. The Centre should feed back into the system developed corrective devices whereby it may be rid of irrelevant, obsolescent, and uneconomical operations and outcomes.

The main functions of an R&D Centre in Teacher Education are the following:

1. To examine the needs and concerns of teacher education.
2. To engage in activities which will improve the functional efficiency of the system and ensure an acceptable standard of quality in its products.
3. To involve as many persons as possible, both professional and lay, in a collaborative effort toward achieving objectives with respect to improving the quality of educational inputs and outputs.
4. To engage in fruitful innovations.
5. To disseminate information which will enhance the total effort to correct and improve the system.

Such being the nature of the functions of an R&D Centre in Teacher Education, it has to cope with questions and situations such as the following:

1. Where should the R&D Centre be located ideally *vis-a-vis* the educational system and its teacher education components? If the ideal site is not possible, how close could the Centre be placed to such a location or at least in fruitful communication with, and relation to, that location?
2. What degree of autonomy in operation, in employment, and in financial and other matters are advisable and could be granted to the Centre? Consideration of such matters as the mechanisms for the expenditure of money under the laws of the land, and its accountability, and job security, prestige, promotion and social security for the staff in relation to civil service, are vital in this respect.
3. Where could the professional staff and top-level experts be found and how their services could be secured for the technical direction of the various projects in the Centre?
4. Where could technicians and operational staff be found, and how could they be hired, trained and maintained for the day-to-day work of the Centre?
5. What measures should be adopted to enhance the know-how and the competence of the staff on a continuing basis in order to keep them on par with the advanced R&D Centres in the world?
6. How best could the internal organization of the Centre be planned to secure maximum flexibility, optimum administrative staff and the highest possible morale and motivation for productive work?
7. What should be the relations of the Centre with the universities and colleges,

on one hand, and with the schools and the Department of Education on the other? How could active cooperation and channels of communication be maintained consistent with its own autonomy to open up opportunities for enhancing its usefulness and productivity.

8. How could useful operational relations be built up within the Centre and with the rank and file of teachers and other educational workers in order to involve all concerned in planning the R&D projects, their implementation and final adoption?

9. How can the Centre develop and maintain cooperative relations with similar centres as well as the educational authorities at the regional and international levels and create a healthy two-way exchange and communication with them?

10. Last, but by no means least, is the vital question of who should be put in charge of the Centre: one man or a team? What should be the qualifications of the leader or leaders of this operation? To what extent should power and authority be centralized or decentralized in the directorate? If we put the whole operation in the hand of one person, what will happen if that individual leaves the Centre?

An R&D Centre in Teacher Education has to be established after due consideration of these questions and after nationally accepted answers could be worked out for them.

III. The Necessity for International Cooperation

The spirit of harmony which characterized the deliberations of the Working Group Meeting and the satisfaction of its participants on achieving their common goal are further confirmations of the benefits that come from international cooperation.

For more than twenty-five years, many peoples of the world have shown that there are no national, racial or cultural boundaries to the aspirations of man for a better life for himself and his children, no barriers to the interchange of ideas and procedures adopted for reaching this better life, and virtually no limits to the developments which result from cooperative action towards achieving mutual understanding, tolerance, and peace that all men hold dear.

In the advancement of Teacher Education, the work of the Asian Institute during the one decade of its existence has displayed the same spirit of international harmony. If the Institute maintains this spirit in the future, despite other changes which may come its way, the continued development of this important aspect of education will be assumed. And just as the development of teacher education will be assured through international cooperation, the countries of the Asian Region and beyond will, in addition, share the rewards of this development; for better teachers today will ensure better citizens tomorrow.

Concerted action is supported by Unesco and other international agencies working in the interest of world harmony and peace. Their support takes various forms, all of which serve in general to produce a multiplier effect upon the advantages which accrue from the cooperative effort of a number of countries within a region. Through international support, the resources of a group of collaborating countries may be pooled to enhance the collective working endeavour and make greater progress than that of any single country working alone.

In the realm of teacher education, the new field of Research and Development which has been the concern of the Working Group Meeting will, with international cooperation enhanced by international support, undoubtedly play a major part in reducing the educational lag in Asia that has been described in *Part One*. The reason for this claim is compelling, as dramatic improvement takes place when a number of multiplier effects operate together. It is obvious that any country working alone runs the grave risk of lagging too far behind its regional neighbours.

The maintenance of international cooperation requires more than mere faith in its efficacy and the acceptance of it as a valued goal. It requires at least two kinds of action both of which have been exemplified by the Working Group in producing this report. The first one is action of countries as individuals; the second is action by a facilitating and coordinating body which knits its members into a powerful team.

At the termination of the Working Group Meeting, participants may serve in their individual countries to focus action upon the introduction of Research and Development techniques into the educational system. Some other organization should take on the responsibility of stimulating and coordinating action at the international level, if the teamwork built up during the Meeting is not to be lost. The Working Group invites Unesco to perform this vital coordinating role and suggests actions on the following as components in the total programme of international development of educational innovation:

(i) Provide Research and Development programmes tailored for regional and sub-regional needs.

(ii) Provide expert and consultant services to assist in the successful accomplishment of these programmes.

(iii) Provide fellowships and other training facilities for national staff carrying out the programmes.

(iv) Coordinate regional efforts to achieve maximum development.

(v) Provide support for the production of materials; and

(vi) Provide documentation and clearing house services.

IV. Funding and Quality Control

In order that a research and development centre may confidently undertake work on selected major problems of teacher education and may be reasonably expected to produce more efficient solutions to those problems, it should receive adequate funding. The nature of this innovative approach to reform in education, differentiating it from the earlier traditional research approach to educational problems, entails a new understanding of the fact that the commitment of such a centre includes a new and additional dimension to research. It does not consider its work completed when a research study is done on paper. Its attack on a problem continues into the phase of development, in which, activities which were anticipated and planned in the initial stage of research are pursued into the actual sites of the educational life that goes on from day to day in the classroom and other places where the teacher does his work. Such being the case, the Working Group Meeting stresses the need of a funding plan which corresponds to the basic requirements of research and development work.

The funds to be provided should be larger than what have hitherto been allocated for educational research, if education is not to lag seriously any more behind the socio-economic needs of the Asian region while business and industrial developments are surging forward. The Working Group believes that one crucial reason for the progress in the latter fields is that business and industry typically plough back into their operations, from 2% to 3% of their total expenditures for research and development in renewing themselves and discovering more efficient ways of production and distribution. It is recommended, therefore, that the educational enterprise of a country should allocate, to start with, at least 1% of its education budget for renovation through research and development. It is also considered essential by the Working Group Meeting that financial planning, providing for research and development a long-range support on the basis, initially, of at least a five-year plan, is necessary to enable an R&D Centre to be viable.

A prominent advantage of educational R&D is its visibility and accountability. Because of built-in quality control and other evaluative features, those who provide the funds for R&D can see how the money is being used and be assured of its effect in improving the educational system. Thus, both programme implementation and the funding provision assure and mutually reinforce quality control.

The Working Group Meeting also stresses the need for the importance of multiple funding, from not only the national or local sources made available in support of an R&D Centre – as in the case of the Philippine Government's budgetary commitment to its national centre – but also from regional and international sources. It endorses the following observation of Unesco on inter-country cooperation in research and development and looks forward to this international agency to act as the leader and major provider of multiple and long-range support of R&D Centres in Asia:

> "If educational research and development is centred on specific programme areas it is obvious that no developing country has the financial and staff resources to cover an adequate range of programme areas. Complementary action in the selection of programme areas as between different countries or to make possible a mass attack on certain common problems can contribute greatly to speeding up research and development work and reducing the weight of the financial burden to be borne by individual countries. . . . The scope for international assistance and cooperation is notably significant in the area of research and development."*

*Third Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia, Singapore, 31 May–7June 1971, *Development of Education in Asia* (Paris: Unesco, 1971), p. 118. /Unesco/Minedas/3/

ANNEXES

1. Agenda and Work Schedule

2. Opening Statements:

   A. Welcome Message of the Honourable Luis L. Lardizabal, Mayor, Baguio City

   B. Opening Remarks by Dr. Salvador P. Lopez, President, University of the Philippines, and Chairman, Steering Committee of AITE

   C. Address by the Honourable Juan L. Manuel, Acting Secretary of Education, Republic of the Philippines

   D. Opening Statement at the Organizational Session by Mr. Raja Roy Singh, Director, Unesco Regional Office for Education in Asia, Bangkok

3. List of Participants

4. List of Working Committees

5. List of Office Bearers

Annex 1

AGENDA AND WORK SCHEDULE

Tuesday, 11 January

a.m. 9:00 – 9:45 : Registration

10:00 : Opening Ceremony (programme of the ceremony distributed separately)

/Note: The working sessions are organized into two phases: Phase A is a seminar to explore the concepts and practices of R&D and their application to teacher education processes. Phase B is a Workshop in which specific programmes of R&D for a National R&D Centre in Teacher Education will be designed and developed./

p.m. 2:30 – 3:30 : Organization Session

- Election of Chairman
- Designation of Sessional Chairmen and a Secretary to the Meeting
- Adoption of the Provisional Agenda and Schedule of Work

/The Meeting will adjourn for the day on the conclusion of the Organizational Session to enable participants to go through the papers./

PHASE A: SEMINAR ON R&D IN TEACHER EDUCATION – EXPLORATION OF GENERAL CONCEPTS

Wednesday, 12 January

a.m. 9:00 – 12:30 : Plenary Session: Agenda items

1. Teacher education as an element in the improvement of education systems in Asia (to be introduced by Dr. Ruth H.K. Wong)
2. Problems and needs of teacher education in Asia (to be introduced by Dr. M. El-Shibiny)

Annex 1

p.m. 2:30 – 5:30 : Plenary Session

3. R&D – concepts and practices (to be introduced by Dr. Robert N. Bush)

4. R&D in Teacher Education – concepts and practices (to be introduced by Dr. Robert Peck)

Thursday, 13 January

a.m. 9:00 – 12:30 : Plenary Session

5. Methodology and criteria for selection of R&D programmes (to be introduced by Dr. Robert N. Bush)

6. Directions for R&D in teacher education in the Asian context (to be introduced by Dr. Iraj Ayman)

PHASE B: WORKSHOP – DESIGNING OF R&D PROGRAMMES IN TEACHER EDUCATION

Thursday, 13 January

p.m. 2:30 – 5:30 : Workshop Session

7. Organization and other essential requirements for R&D in teacher education in the Asian context (to be introduced by Dr. Abdul Fatah Siddiq)

8. The need for a National Centre for R&D in Teacher Education (to be introduced by Dr. N.P. Pillai)

/Note: The participants are requested to prepare and hand in to the Secretariat by the evening of Thursday, 13 January, their tentative suggestions on the specific programmes and projects which might be undertaken by a National Centre in Asia. These suggestions will be discussed in the Workshop Session on the following day and a final listing prepared, on the basis of which, Working Teams will elaborate the design outline for each programme./

Friday, 14 January

a.m. 9:00 – 12:30 : Workshop Session:

Discussion on the Preliminary Listing of Suggested Programmes

Formation of Working Teams for the programmes and projects selected

p.m. 2:30 – 5:30 : Working Teams Meet

Saturday, 15 January

a.m. 9:00 – 12:30 : Working Teams meet and prepare their Programme Reports

Sunday, 16 January

a.m. & p.m. 9:00 – 4:00 : Picnic at Nalinac Beach, Bauang, La Union

Monday, 17 January

a.m. & p.m. 9:00 – 5:00 : Small Group Meetings

Groups to hand in their completed reports as they are made ready so that all the manuscripts for long-range and short-range programmes will be in the hands of the Secretariat by 7:00 p.m.

(The Secretariat will be on duty all evening to finish the production of reports for distribution)

Tuesday, 18 January

a.m. 8:30 – 12:00 : Plenary Session to review the Group Reports (Long-Range and Short-Range Programmes)

p.m. 12:30 : Luncheon Meeting of the Drafting Team for the Final Report

2:00 : Small groups meet to finalize their respective group reports and to submit their final manuscripts to the Secretariat on or before 5:00 p.m.

Annex 1

	7:00	: Cultural Programme and Dinner *Hosts:* Hon. Luis L. Lardizabal Mayor, Baguio City and City Council
Wednesday, 19 January		
a.m. & p.m.	9:00 – 5:00	: Drafting Committee meets Sight-seeing for participants not engaged in drafting the report
	12:00	: Lunch at Mrs. Geronima T. Pecson's residence
Thursday, 20 January		
a.m.	9:00 – 11:00	: Adoption of Draft Final Report and Closing Ceremony
	11:30	: AITE Luncheon in honor of the Participants
p.m.	1:30	: Schedule of departure by RHC Bus
Friday, 21 January		
a.m.	8:10	: Schedule of departure by PAL

WELCOME MESSAGE OF THE HON. LUIS L. LARDIZABAL,*

Mayor, Baguio City

Distinguished Members of the Conference, Ladies and Gentlemen, Friends:

I take pleasure in addressing a group of distinguished educators who have the welfare at heart of the many tutors all over the country. That their work in this pine-scented city for the next ten days should find fruition augers well. This is an example for all to take notice that so far we have provided for a climate that will induce the thinkers of our nation to develop better things for other people.

Baguio is on the verge of development in several aspects and one of them is in the field of education. Both the public and private sectors have joined hands in the overall development of this city and over the past four years which I had the privilege to administer city affairs we have come towards fulfilling the needs of the physical plants for our children of school age.

As you will find time to move about the city and take notice of the different schools, you will no doubt express concern at the same time of the rapid expanding student population of this city. For today with some 83,000 people residing in Baguio, almost one-half are going to school in three universities and two colleges, a military government school and a host of secondary and elementary schools established by both private and public entities. Our students not only come from the neighbouring towns of Northern Luzon and Central Luzon, but even as far as the Visayas and Mindanao. Yes we have them here in Baguio, for they too find the climate here conducive to study. We also have many foreign students.

While our student population is fast increasing, there is now a felt need for the teachers who guide these students in their studies, studies which should be adequate and proper as well as wholesome. And it should not be any teacher that should be in the classroom. He should be a teacher who is concerned, deeply concerned over the achievement of his pupils; for the product of education is the reflection of our teachers who wield the guiding hand, formulate the principles that should be instilled to make the pupil a better citizen of his country, instilling the brand of education that will provide an impetus upon the pupil to do and work for greater heights.

It is my fervent hope, therefore, that this Working Group Meeting on Research and Development in Teacher Education provide added measures for the improvement of our present crop as well as set down guidelines for those who are to take their place in the classroom. In this city, make yourselves at home, for Baguio warmly welcomes you and may you succeed in formulating those that are necessary to meet the educational needs of our youth.

Thank you.

---

*Read by Mr. Francisco G. Mayo, Senior Technical Assistant, Office of the Mayor, Baguio City.

Annex 2-B

OPENING REMARKS OF DR. SALVADOR P. LOPEZ,
President, University of the Philippines, and
Chairman, Steering Committee of AITE

Mayor Lardizabal, Secretary Manuel, Mr. Singh, distinguished participants in the Unesco Working Group Meeting on Research and Development in Teacher Education, friends, ladies and gentlemen:

As we awaited the arrival in Baguio of the participants in this Meeting, the subject of change engaged a group of friends and me during our conversation while we were looking one morning at the beautiful misty Baguio landscape. It struck me that in my own experience of a few decades of visiting Baguio, the climate as well as the landscape of Baguio has suffered noticeable transformation. While not all of it has been for the best, our guests attending this Meeting will find much that remains, or has been added, to make this environment very delightful, more so indeed than that of our other cities which you have already seen. It is for this reason that we chose this venue for this important Unesco Meeting, and that we hope you will be happy working here. It will quickly dawn on you that the same consideration has not been lost on our State University, which maintains a branch in Baguio just around the corner from here.

Change in man's physical and cultural environment – specially in the educational system – is admittedly inevitable. In our time, inevitability has been reduced to a commonplace by the multiplicity, the profundity, and the militancy of the forces of change which batter the doors of our traditional educational institutions and challenge our customary modes of thought and action. Serious teachers at all levels, from primary to graduate school, have been deeply concerned and have started to devise a variety of creative responses to the revolutionary ideas and events affecting their work, their life styles, and the society of which they are a part. A concomitant of these changes is the reconceptualization of human society as a world-society which grows constantly more and more closely interwoven, demanding our utmost devotion and cooperation more urgently and in a large measure than our narrower groupings as nations, races, religions or as political, economic or security alliances have hitherto required.

This Unesco Meeting in Baguio has brought together just such an international group of concerned and creative teachers, scholars, and administrators. The quantitative and qualitative problems of educational development, both recurrent and emergent, in this part of the world are of such staggering dimensions that they may discourage ordinary men. However, the educational achievements in Asia of the Karachi Plan in the First Development Decade have shown that the community of educators in Asia and their representatives in Unesco are no ordinary breed of men and women. The strength and confidence gained from their past experience will no doubt inspire you who are taking part in this Unesco Working Group Meeting on Research and Development in Teacher Education. The work you do here should help to accelerate Asian education during the Second Development Decade and usher in a brighter tomorrow for Asia.

Annex 2-B

In behalf of the University of the Philippines and the Asian Institute for Teacher Educators, I wish to express our gratitude for the goodwill, generous cooperation, and dedication demonstrated by the participants in accepting our invitation to come from distant parts of the world, laying aside their urgent duties at home in order to gather and work together here in Baguio for the continuing betterment of the quality of education and the quality of life of the people of Asia.

Annex 2-C

ADDRESS OF DR. JUAN L. MANUEL,
Acting Secretary of Education,
Republic of the Philippines

It is a pleasure to extend my greetings to the teacher-education experts participating in this meeting purposely called to identify problems and issues that could be taken up for research and development in the region during the Second Development Decade.

I believe it is no exaggeration to say that some of the best minds in the region as well as outside the region, from U.S.A. and Australia, in the field of education especially in research and development in teacher education are here. This is therefore a potent group whose thinking and disposition can decisively influence the nature and direction of the educational process and consequently the quality of the educational product. Those engaged in the education and training of teacher educators hold the key to many of our current educational perplexities.

While admitting without question that adequate classrooms and school buildings, laboratory equipment, instructional materials, books and other tools of learning are essential and imperative toward the achievement of educational goals, few will deny that if there is one single factor that primarily determines the efficiency of the educational process and the effectiveness of the educational product, that factor is the teacher.

The best tried and tested techniques, the most sophisticated educational media can all be futile and ineffective in the hands of an incompetent teacher. On the other hand, a competent, well prepared teacher can wondrously achieve the goals of education even with the scantiest of resources and facilities. It must be pointed out in this regard that the quality of our teachers depends on the type of training they have received and the persuasions of the teachers that have worked with them. That is why I restress the significance of the meeting of this expert group.

The focus of this meeting is on research and development in teacher education. This indeed is timely and urgently important particularly considering the insistent clamor for change and the restless, impatient nature of our times. We are all aware of the spreading agitation for reforms in the educational system and for change in the content and method of education to keep pace with the bewildering changes brought about by advances in science and technology. And in this regard, we bear in mind two points: first – that any effort at educational reform or improvement, for greater efficiency, must perforce start at the teacher education level or, if it does not start there, it must involve teacher education institutions; and second – any such change or reform must have basis and justification in the findings of research.

That there is an imperative need for research in various aspects of teacher education and training is understood and appreciated. There are many situations and realities that imply exigent areas for research. Allow me to outline very briefly a few such situations and realities.

First: there has not been as much communication and articulation as is desirable between our teacher education institutions and our school system which absorbs the bulk of the products of such institutions. While I speak, by the way of the Philippine situation, there is reason to believe that the same situation may obtain in various other countries.

Our teacher education institutions operate rather independently of the school system and it is not an uncommon situation for graduates, thrust into the system and confronted with certain problems, to bewail the fact that there are certain aspects in the actual world of teaching which the college training had not adequately prepared them for. It is in realization of this weakness that we try to remedy through various means among which is the off-campus teaching. Similarly blameworthy is the school system that initiates and implements certain new educational fads or strategies without the necessary communication with the institutions that prepare the teachers for such a system. This lack of correspondence or articulation could result in so much unnecessary waste.

And, in this connection, it may be pointed out that we do not really lack research in education – for there are a good number of researches and studies in education being conducted yearly – but perhaps they are not the right kind of studies – nor even the useful kind. I agree with a statement made in one of the papers prepared for this meeting that there are hundreds or more graduate studies completed every year which are seldom used, if at all, by educators to effect some change or improvement in the system. And the implication of this situation could be, that perhaps not much seriousness or purposiveness went in the choice of the problem for study or that perhaps the subject was chosen primarily for compliance with certain graduate requirements without really the needfulness of the system or the usefulness to educators in the field as primary considerations.

Another reality is this: Most of the Asian countries represented here have identical experiences of colonialism and of educational systems prescribed by the colonial powers. We have generally adopted certain techniques and strategies, including the use of certain educational media, from other more advanced countries with little modification, if at all. And it is doubted whether the adoption of such teaching strategies or approaches had been preceded by some form of study or research to determine whether they are really effective, or even worthwhile for our peoples considering our peculiar cultural and reaction patterns.

While certain strategies may be most workable for a certain group of people, they may not be effective at all with another group of people. Peoples of different cultures react differently to various approaches. May I cite for example that the direct, straightforward question may yield accurate precise information to certain Western peoples but very questionable results to certain Asians used to the indirect, devious and artful conversation.

And then, too, we have the knowledge explosion. We are aware of the staggering rate at which new knowledge and information are gained and existing concepts revised, calling for the operation of a teacher education programme consistent with the concept of lifelong education. This again implies closer interaction between the school system and the teacher education institutions.

Currently, there are the new demands on relevance in education to such problems as are posed by the population explosion, the environment crisis, better understanding among nations that call for the preparation of a new breed of teachers who are equal to the challenges of these demands. All these call for serious study and research – research of the functional, action-oriented type.

Finally, there is the reality especially in developing countries of scarce resources to meet the ever increasing demands for more and better education. In the face of this difficult situation, there is the clamor for the use of imaginative and innovative approaches. However, innovations, be it in the structure, in the curriculum, in the orientation and

methods and techniques of education, to be accepted and generalized, have to be subjected to experimentation and research. How to produce innovative teacher educators should be one of the concerns of the Research and Development Centre in Teacher Education.

I am fully confident that this meeting of experts in the field of teacher education will be able to contribute essentially to the purposeful regional effort to improve education in general and teacher education in particular.

Before I close, allow me to wish you all a most fruitful meeting. May you discover with joy the various enchantments of this fair city and may you cherish the charm and the warmth of the Filipino heart. I trust your stay in this country will be a pleasant, gratifying experience.

Annex 2-D

OPENING STATEMENT AT THE ORGANIZATIONAL SESSION
BY MR. RAJA ROY SINGH, DIRECTOR,
Unesco Regional Office for Education in Asia

Friends:

It is my brief but very pleasant duty to be on this side of the table till you elect your Chairman of the Meeting. Before I invite you to make your nomination, I should like to use this occasion to discharge a duty that the Director of AITE, Dr. Morales, has laid upon me – that is to make a statement on the background of this Meeting, its objectives and the possible outcome.

A variety of considerations and events form the background of this Meeting. I shall briefly describe some of them.

As some of you would be aware, Unesco convened last year on 30 May – 7 June 1971 at Singapore the Third Regional Conference of Ministers of Education in Asia. Ministers or their representatives from 18 Member States in Asia participated in the Conference. I may mention that the Regional Ministerial Conference is convened by Unesco once every five or six years, and it has over the years become a major forum for inter-country cooperation in education in Asia and also a major policy-making mechanism. The Singapore Conference was the third in the series of Regional Ministerial Conferences in Asia.

The Conference reviewed the progress of education in Asia in the last decade and laid down some guidelines for further development during the decade of the 70's – the decade that the General Assembly of the United Nations has proclaimed the Second Development Decade. The distinguishing feature of the Singapore Conference, and one that made the Conference a watershed mark, was the call, in clear and unambiguous terms, for innovation and reform in education. I must admit to you that the Ministers' call for innovation came as a surprise to many on the organising side of the Conference and even to some participants from countries outside Asia. The image of Asia is of a continent in which the countries individually and collectively are deeply attached to their traditions and the roots from which these traditions have grown. The Ministers' strong emphasis on the need for an innovative approach to education came as a message on a new key.

There is, however, solid practical realism in the policy-makers' emphasis on innovative approaches. In Asia, the needs of education are on a vast scale – every element has to be counted in units of millions: millions of children are now in school but millions of children are still out of school; the teaching force numbers in millions but so does the additional teachers required every year. It is not only a question of some sort of education becoming available to every child: what is the quality of this education; where does it lead to; what does it prepare for? These questions have become even more important for policy makers, as expansion of education, quantitatively, has brought a broadening stream of young people into the education systems. To say that you must stop them from seeking education till you are in a position to afford their education is as difficult, even if it were at all desirable, as asking the world to stop because you want to get off it. The demand for education is hitting the ceiling of available resources. And is the nation being given its money's worth in the way we educators use these limited resources? The thought uppermost in the deliberations of the Singapore Conference arose out of this hard look at the realities: we in the developing countries require more and more, and better education, but we cannot get either more or

better, by doing the same things in education as we have done before, even though on a larger and expanding scale. That way is a blind alley.

In our developing countries in Asia, training of teachers is, if I might be permitted to mix metaphors, a bottleneck and an unused opportunity. In the decades of the 50's and 60's, when the emphasis of national education policies was on expansion of enrolments, the output of teacher training system could not keep pace with the growth and tended to act as a drag. With increasing attention now turning to questions of the quality of education, teacher training systems in their traditional form and methods may find themselves out of tune with what the schools are trying to do. Evidence on this is already accumulating. Take for example the new curriculum developments in many countries in Asia notably in science and mathematics. The disparity between, on the one hand, what the teacher training institutions have done and continue to do, and on the other hand, the new curriculum developments in the school, stands marked out. Teacher training systems encased in practices and procedures, which were established at least half a century ago and have remained largely unchanged, may well find themselves isolated in the stream of new developments unless they place themselves in the vanguard of these developments by enhancing their capacity to contribute to these developments.

Now, teacher education is like the weather – everybody talks about it, but nobody does anything about it.

To which source can we look for the impulse of new ideas, techniques and practices to renew, reorient and reform our education systems? Educational research in its classical form has contributed little to easing the policy makers' burden of decision-making. Educational research in its traditional form is highly specific in design and approach and its long-term perspectives have not been found compatible with the practical urgency which underlies developmental tasks faced by policy makers. And alas, exposition of a theory however well "researched" does not by itself ensure its application or adoption in practice.

But new efforts are promisingly emerging which are oriented to the application of such knowledge, insights and even hunches as we have to the solution of practical problems. In another sphere, that is agriculture, we in Asia have witnessed the remarkable achievements this approach has yielded, leading to the "green revolution." In industry, of course, research and development has been well established for quite a few decades. Does this concept – that is of research and development as an interlinked process centered on a practical problem – have any application to education and more particularly to the training of teachers? Can we in Asia, with our resource constraint, derive relevant insights from these new orientations of research?

This is the first question we would like to put to you and seek your guidance on. We are fortunate to have with us here in the Meeting (and we are grateful to them for responding to our invitation) distinguished educators and scholars from Asia and abroad who are breaking new ground in educational thought and practice. This Meeting I hope will also be a meeting of the minds on these urgent and practical problems in Asia.

Then, there is another dimension to the background of this Meeting. It derives also from the Singapore Conference. One of the most significant and far-reaching recommendations of the Conference related to what the Conference called 'a new mechanism for regional cooperation in education in Asia'. The Conference recommended that national centres and institutions which have already acquired a certain measure of strength be identified to work intensively in the context of their own countries in certain programme areas;

for example, teacher education, curriculum development, educational technology, educational management, etc. These national centres will be encouraged and assisted to experiment with and develop new and innovative practices. Regional or inter-country activities of cooperation such as training of key level personnel, joint studies, etc., will be built round these innovative programmes which have been tested and developed at the various national centres. To coordinate the programmes of the various national centres, to stimulate their efforts and if necessary to provide them technical assistance and guidance, there will be, according to the recommendation of the Conference, an Asian Centre of Educational Innovation for Development, internationally financed and internationally manned. Thus, a network is to be created – a regional centre "networking" with a number of national centres, all dedicated to developing innovative techniques, practices and products relevant to the Asian context and resource constraint.

The rationale for this recommendation of the Conference is obvious. First, experimentation and development are important but they cost money, and in the Asian countries we do not have individually the financial capability to bear the risk of experimentation and development across the whole field of education and training. But we may be able to do it if we share risk. Each national centre works intensively in a specific programme area and shares the results with other countries where they can be adapted at much less cost. Secondly, the scheme envisaged by the Conference anchors research-development-experimentation to the realities and practical problems of a particular country and not to a hypothetical model. Does it work in that country? What is the cost and benefit? Now we assume that what works in one country may be transferrable with some modification to another country at a similar stage of economic and social development. We have yet to gain experience about the conditions in which such transfer can occur, or whether it occurs at all. At any rate, that is the assumption on which all international work is based.

The Government of the Philippines has taken leadership in responding to the recommendation of the Singapore Conference and have decided that effective January 1, 1973 there will be a National Centre for Research and Development in Teacher Education. It will be dedicated to developing new techniques, methods and products for training of teachers at all levels of education and serve the Philippine education system. It will also at the same time be linked to the regional network (if the scheme of regional mechanism is approved by the General Conference of Unesco which is to meet in October/November this year). The Asian Institute for Teacher Educators (AITE), our host, will consequently undergo a transformation on January 1, 1973 when it will incorporate in itself the national centre for research and development in teacher education.

So, this is the second question we should like to put to you and ask for your help and guidance. What are the specific programmes and projects that you would recommend for a National Centre to undertake? What are the purposes and objectives to which each such specific programme or project should be addressed? What are some possible ways of carrying it out? I would say: imagine yourself as head of a National Centre for Research and Development in Teacher Education in an Asian country on 31 December 1972. From next day onward, the Centre must start on programmes and projects which should be capable of making a significant contribution to the problem of training teachers. What do you do on 1st January 1973 and on, over a period of, let us say, four or five years?

You will notice that the Provisional Agenda and the Schedule of Work which has been circulated to you and which you will be examining shortly, has been organized into two

phases. The first phase is in the form of a Seminar in which the general concepts will be discussed. That was the first question I had submitted to you. The second phase is in the form of a Workshop which will give us the specific programmes and projects which a National Centre should be able to launch on. I personally feel that six to seven significant programmes and projects would not be too few or too many and may be within the limits of practicality.

The outcome of this Meeting's labours will be a report which should be an instrument of action. It will provide the guidelines and a blueprint for a National Centre in the Philippines or in any other Asian Member State to start off on actual, concrete, practical projects, with the knowledge of why and to what end it is carrying them out. The report will therefore embody in one part your thoughts and reflections for the benefit of interested readers who may wish to know what it is we have in mind when we talk about educational R&D and how it is relevant or important for teacher education in the Asian context. The other part of the report will have the outline designs of the specific programmes and projects you recommend for implementation.

I wish to thank you for bearing with me through this rather long statement and your indulgence in permitting me to make it without warning.

Annex 3

LIST OF PARTICIPANTS

Consultant Participants

Dr. Narciso Albarracin
Undersecretary of Education
Department of Education
Manila, Philippines

Dr. Iraj Ayman
President
National Institute of Psychology
P.O. Box 741
Teheran, Iran

Dr. Robert N. Bush
Director
Stanford Center for Research and
Development in Teaching
Stanford University
Palo Alto, California
U.S.A.

Dr. Michael J. Dunkin
Senior Lecturer
Macquarie University
School of Education
New South Wales
Australia

Dr. Panas Hannarkin
Vice President
College of Education
Pitsanuloke, Thailand

Dr. Dolores Hernandez
Director
Science Education Center
University of the Philippines
Quezon City, Philippines

Dr. Robert Peck
Co-Director
The Research and Development Centre
for Teacher Education
Austin, Texas
U.S.A.

Annex 3

Prof. P.K. Roy
Principal
Central Institute of Education
Delhi University
New Delhi, India

Dr. Abdul Fatah Siddiq
President
Planning Department
Royal Afghan Ministry of Education
Kabul, Afghanistan

Dr. Ruth H.K. Wong
Director of Educational Research and Statistics
Ministry of Education, and Principal, Teachers
Training College
Singapore

Consultant Participants Invited But Were Not Able to Attend

Dr. Zulfiqar Ahmad, T.I.*
Head, Department of Research
Institute of Education and Research
University of the Panjab, New Campus
Lahore, Pakistan

Dr. Yung Dug Lee
Professor of Education
Graduate School of Education
Seoul National University
Seoul, Republic of Korea

Mr. Kikuo Nishida
Secretary-General
Japanese National Commission for Unesco
Tokyo, Japan

Dr. W.D. Wall
Director
National Foundation for Educational Research
The Mere, Upton Park
Slough, Buckingshamire
England

---

*Submitted his paper for the Meeting entitled "Research and Development in Teacher Education."

Observers

Mr. Pedro F. Abella
Executive Secretary
Unesco National Commission of the Philippines
Manila, Philippines

Dr. Nancy B. Bush
Educational Consultant
Stanford University
Palo Alto, California
U.S.A.

Dr. Josefina R. Cortes
Development Project Specialist
Education and Training
National Science Development Board
Manila, Philippines

Dr. Eleanor Elequin
Professor and Chairman, Graduate Committee
College of Education
University of the Philippines
Quezon City, Philippines

Mrs. Geronima T. Pecson
Former Member, Executive Board
Unesco, Paris
Member, Unesco National Commission of the Philippines
Manila, Philippines

Dr. Cresencio Peralta
President
National Teachers College and
President, Philippine Association for Teacher Education
Manila, Philippines

Dr. Lourdes S. Sumagaysay
Education Executive Assistant
Office of the Director of Public Schools
Bureau of Public Schools
Manila, Philippines

Unesco Regional Office for Education in Asia, Bangkok

Mr. Raja Roy Singh
Director
Unesco Regional Office for Education in Asia
Bangkok, Thailand

Annex 3

Dr. G.L. Arvidson
Programme Specialist in Educational Research
Unesco Regional Office for Education in Asia
Bangkok, Thailand

Asian Institute for Teacher Educators (Sponsored by Unesco)
University of the Philippines, Quezon City

Dr. Alfredo T. Morales
Director

Dr. Tomas P. Tadena
Deputy Director

Mrs. Penelope V. Flores
Executive Officer

Dr. M. El-Shibiny
Unesco Expert

Dr. N.P. Pillai
Unesco Expert

Dr. M.S. Patel
Unesco Expert
College of Education
University of the Philippines

Mrs. Cecilia C. Pastrana
Documentalist

Annex 4

LIST OF WORKING COMMITTEES

Group A

Chairman:	Dr. Robert Peck
Members:	Dr. G.L. Arvidson
	Dr. A.F. Siddiq
	Dr. T.P. Tadena
	Dr. Ruth H.K. Wong
	Dr. C. Peralta

Group B

Chairman:	Dr. Robert N. Bush
Members:	Dr. I. Ayman
	Dr. Panas Hannarkin
	Dr. N.P. Pillai
	Dr. M.S. Patel
	Prof. P.K. Roy

Group C.

Chairman:	Dr. Michael J. Dunkin
Members:	Dr. Nancy B. Bush
	Dr. M. El-Shibiny
	Dr. D. Hernandez
	Dr. A.T. Morales
	Mr. Raja Roy Singh

Annex 5

LIST OF OFFICE BEARERS

Chairman: Dr. Narciso Albarracin (Philippines)

Sessional Chairmen: Dr. A.F. Siddiq (Afghanistan)
Dr. I. Ayman (Iran)
Prof. P.K. Roy (India)
Dr. Ruth H.K. Wong (Singapore)

Secretary: Dr. N.P. Pillai